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Nation's Business

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Who buys

how much

Credit Insurance?

LARGE firms a little? Small firms a lot? Actually, there seems to be little or no correlation between mere size or type of a business and its Credit Insurance needs. Large firms as well as small require the assurance that working capital will at all times be kept working, will not be lost or tied up indefinitely in Receivables. For example, we cite the following list of single premiums paid by some of American Credit's larger policyholders!

POLICYHOLDERS' BUSINESS	ANNUAL PREMIUM
-------------------------	----------------

Steel.....	\$ 17,815.77
Plywood.....	\$ 20,515.79
Automotive Parts and Accessories.....	\$ 20,936.62
Wool Tops.....	\$ 21,734.49
Heating Appliances.....	\$ 25,082.87
Worsted.....	\$ 26,285.09
Newsprint, Pulp and Insulation Board.....	\$ 28,251.50
Radios, TV Sets, Heaters.....	\$ 32,026.00
Pressed and Blown Glassware.....	\$ 36,669.66
Television and Radio Equipment.....	\$ 40,761.35
Air Conditioning Units.....	\$ 48,606.84
Electrical Appliances, Aircraft Parts.....	\$ 49,668.36
Textile.....	\$ 61,506.04
Air Conditioning Equipment.....	\$102,536.28

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of New York

ABOUT THIS ISSUE

TRIS COFFIN is well known by now to readers of *NATION'S BUSINESS*. He has written well and frequently for us in recent years, and his latest product, "Canada Has World's Fastest Growing Economy," starts on page 28 of this issue.

When we asked Mr. Coffin to get together a few paragraphs on his personal background he replied: "So far as I am concerned I am not the Maine Poet (Robert Peter Tristram Coffin). Tristram just happens to be a familiar name in the Coffin family. Years ago a city editor of mine suggested that my by-line be cut to 'Tris.' And so it has been ever since.

"I learned to discover fact from fancy 20 years ago as a police reporter in Indianapolis and, since then, have been a Washington radio correspondent, a syndicated columnist, an author ('Missouri Compromise' and 'Your Washington') and a magazine writer."

His first magazine article came about quite accidentally. An editor heard a broadcast he made on atomic energy and offered to buy the script for publication. "That was all the push I needed to get started in magazine writing," adds Mr. Coffin.

In the photo below the writer is shown with his pet beagle, "Frisky." Mrs. Coffin took the picture.

Mr. Coffin toured Canada a year ago. He came home impressed by



the "dynamic strength" of our northern neighbor, began assembling additional information on Canadian industrial development. His article is the result of that extensive research and additional trips to Canada.

ASDUR TAKAKJIAN, one of our associate art directors, designed this month's cover. His design introduces a four-part analysis of the automobile and its effect on American life (see page 72). Mr. Takakjian's symbolic treatment of the subject is reminiscent of his first cover for *NATION'S BUSINESS* (Dec., 1953). That initial effort dealt with the future of powered flight.

So that you may hear the true miracle of these low-cost high-fidelity recordings we offer

BOTH of these Musical Treasures Yours for only 10¢

on this 12-inch long-playing (33 1/3 rpm) Pure Vinyl, custom pressed guaranteed HIGH FIDELITY recording

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5th SYMPHONY

and on the other side

SCHUBERT'S

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Now you can own and enjoy the best-loved Symphonies, Concertos, Operas, Operettas and Musical Comedies—from Bach to Gershwin —AT HALF THE USUAL COST!

Yes, on this special introductory offer—you may have Beethoven's 5th Symphony AND Schubert's 8th (Unfinished) Symphony—BOTH COMPLETE on one 12" long-playing High Fidelity Record—for only 10¢! We make this sensational offer to acquaint you with the new planned program called MUSIC TREASURES OF THE WORLD.

Under this program you can now enjoy in your own home a complete recorded library of the world's great music... beautifully recorded on the latest high-fidelity electronic equipment, with the full range of sound (30-15,000 cycles per second)... all yours for half the price you would normally expect to pay! High-fidelity recordings like these usually sell at retail for \$5.95 each—but because assured distribution to members eliminates the usual expense of unsold records—and because of the development of mass production high-fidelity record pressing equipment—we are able to offer these 12" long-playing high-fidelity records exclusively to our members for only \$2.98 each!

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Music Treasures of the World makes available to you and your children the best-loved works of all the greatest composers, both serious and light—Bach, Beethoven, Brahms, Mozart, Tchaikovsky, Gershwin, etc. And these selections are thrilling brand-new performances, played by internationally famous philharmonic symphony orchestras under the batons of such eminent conductors as Walter Hendl, Hans Swarowsky, Dean Dixon,

Kurt Graunke, etc.—brilliantly recorded especially for these new long-playing records!

YOU LEARN TO UNDERSTAND GREAT MUSIC

By accepting this introductory offer now, you will also be automatically enrolled in our fascinating Music Appreciation Course—absolutely free! Each month you will receive—FREE—a new issue of our Course to help you understand the fine points of music and enable you to listen to all music as do the critics and composers themselves!

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Remember—whether or not you decide to purchase any additional records from Music Treasures of the World, the introductory record is yours to keep—for only 10¢! And you will still receive, each month, a new issue of our Music Appreciation Course, FREE. So send 10¢ now—while you can still get BOTH of the Musical Treasures listed above. Hear these great recordings for yourself. Accept this introductory offer—by mailing the coupon today!

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SCHUBERT'S 8th Symphony

Here is my 10¢ as payment in full for the 12" long-playing record described above—plus the first treatise of your Music Appreciation Course—which I may keep whether or not I purchase any additional records. Each month, as an Associate Member I will receive advance notice of the new record release, which I may purchase at the special member's price of only \$2.98 per record, plus a few cents for U. S. tax and shipping. However, I may decline to accept any or all records offered me and I may cancel membership any time. It is further understood that I will receive the Music Appreciation Course—one lesson each month—absolutely free!

Membership is limited to one subscription to any family or household.

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IN CANADA: 1184 Castlefield Ave., Toronto 10, Ont.



Wausau Story

by **DON W. DOUGLAS, JR.,**

Director and Vice President of the Douglas Aircraft Company



"Four young fishermen, happy as skylarks..." Mr. Douglas talks over fishing, scouting and jet airplanes with Kenneth King (left), Alfred King, Jerome Roble and Clarence King (right).

Employers Mutuals of Wausau are "good people to do business with."

Mr. Douglas speaks of a way of life in Wausau—a good way of living and doing business. This Wausau "personality" extends far beyond Wausau. You will find it in each of this company's 89 offices across the country. It means a fairness that bends over backwards to give our customers the protection and service they expect.

We handle all lines of fire and casualty insurance, and **workmen's compensation**

is our specialty. More than in any other kind of insurance, the cost of workmen's compensation is *controllable*. And the better the insurance company, the more controllable. For example, Employers Mutuals' accident prevention program can mean lower insurance costs for policyholders. An Employers Mutuals man will show you how. Phone our local office or write to Wausau, Wisconsin.

What is there about Wausau, Wisconsin, that makes it the ideal home for one of the world's most important insurance companies?

Employers Mutuals invited a leading airplane manufacturer to visit its hometown and find out.

WHEN I saw them they were hurrying down the road on their bicycles. Four young fishermen, happy as skylarks. "ANY LUCK?"

They showed me their catch (picture left). Sixteen black bass, real beauties. "We caught 'em in the Eau Claire River," said Clarence King. "We just used worms...scout's honor."

Looking in those vigorous young faces, I could tell a lot about Wausau. It's a good country for kids to grow up in.



Here's just one example of Wausau's progressive spirit. The beautiful Alexander Airport, just a mile or so from the stream where the boys had fished. As I told Ken Schuck, the airline manager (above left), this is as modern and well-equipped an airport as I've ever seen. Wausau is like this...a city of far-advanced industry, yet with the Woods at its doorstep.



I visited the Wausau Boy Scout Day Camp with "Mac" McCormick of the *Record Herald* (above right). The magnificent new field stone lodge was built for the scouts by the citizens of Wausau, who, if they couldn't give money, gave their own time and services to make this building possible.

I saw this spirit at work everywhere. It's the spirit, too, of Employers Mutuals. And it accounts for what so many say—that they're good people to do business with.

Employers Mutuals of Wausau



► **POPULATION SHIFT** means more than people on the move.

It means new markets, homes, businesses, farm output, transportation facilities, schools.

California trend is graphic illustration of impact:

State is up from 21st in population rank in 1900 (1,500,000) to second today (12,250,000).

What's that done to rest of state's economy?

California's first in U. S. in new construction (about \$4,000,000,000 this year); first in farm cash income (\$2,-585,520,000); first in auto registrations (well over 5,000,000).

In 15 years, state has doubled population.

It's also doubled employment to 4,-827,000; increased income five times to \$24,000,000,000; tripled retail sales to \$16,000,000,000; boosted manufactures seven times to \$7,000,000,000; more than trebled new construction; raised farm income four times; quadrupled electric power production to 35,028,000,000 kilowatt hours.

It's also quadrupled mineral production to \$1,224,000,000, more than doubled auto registrations.

Note: For nationwide analysis of people on the move—and what it means—see "Construction Boom—No End In Sight," page 25.

► **FOREIGN INSURANCE** firms enter U. S., compete with private firms here.

American insurance men say these firms are subsidized by their governments.

They point out that our administration's trying to get government out of business.

Now foreign governments are coming in.

One firm operates in Montana, has applied for license to operate in North Dakota.

It's run by Province of Saskatchewan.

A French government operated company wants to sell insurance in Florida.

U. S. insurance men want to strengthen state insurance laws, keep out socialized firms.

Note: Saskatchewan company, operating

in U. S., is denied license to operate in other Canadian Provinces. They won't let in the competition.

► **ARMED SERVICES** are counting their hardware—guns, tanks, other hard goods.

They're finding huge inventories—and living off them.

Means new defense contracts diminish during present use-it-up period—rise sharply as inventories are worked down.

Here are the figures:

New contracts outstanding: \$9,200,-000,000—post-Korea low.

New funds available for such contracts between now and next July: More than \$16,000,000,000.

Pentagon fiscal experts say outlays will level off at about \$16,000,000,000 annually by '57.

Administration's cutback defense budget allows for expenditures at this level.

► **CHAIN STORE** beer has some big brewers foaming.

It's private label stock for supermarket shelves, sells for as much as 40 per cent less than regional beers or nationally distributed premium brands.

Says a spokesman for premium brand:

"People are price-conscious. These supermarket beers are gaining in sales consistently."

► **NEXT SESSION** of Congress will get legislative proposal to tie vets' benefits to conditions of service.

Currently, veterans with no actual fighting get same benefits as Korean vets.

That adds more than \$45,000,000 monthly to bill for benefits.

Length of service, and whether man's inducted or enlists, also is expected to enter picture.

In other words:

Congress will be asked to reinterpret present national emergency legislation, still in effect more than year after end of Korean fighting.

► **BACK-STAGE BATTLE** brews on unemployment figures.

Why?

No one knows how many jobless there are. Figure of 3,200,000 is current estimate of Census Bureau.

But three other federal agencies also gather job data: Bureau of Labor Statistics, Bureau of Employment Security, Bureau of Agricultural Economics.

Each goes its own way.

Here's background on battle shaping up:

Office of Statistical Standards, prodded by Council of Economic Advisers, wants inter-agency group to study data collecting methods.

Group is asked to come up with uniform, consistent formula to be used by all.

Meanwhile, special study not yet released recommends larger sampling area, more coverage of households.

It says there's need for tighter supervision of field staff, more money in budget for more interviewers.

Inter-agency group tries to iron out differences, set up public hearings.

But so far members can't agree among themselves.

Note: Civilian labor force in U. S. is about 40 per cent of total population.

Thus, while unemployment runs about 5 per cent of labor force, it's just 2 per cent of population.

► FOREIGN DAIRY market may ease U. S. surplus.

Agriculture Department explores possibility of setting up reconstitution plants in Japan, Southeast Asia.

They're plants that use milk fat with dry milk solids and water to turn out fluid milk.

Plants would be financed by local Asian governments, plus help of U. S. private enterprise.

What's the market potential?

One plant can produce up to 80,000 quarts of milk daily, would cost about \$500,000.

Each would mean a market for about 1,000,000 pounds of U. S. dairy fat annually, help trim government warehouse butter supply—now about 300,000,000 pounds—as well as reduce surplus of dry milk solids.

► WHERE'S MONEY coming from to finance

President's \$50,000,000,000 highway program?

Question will be answered this month or next.

Experts explore three possibilities:

1. Increased construction of toll roads.

2. Increase in gas and/or excise tax rates.

3. Bond issues to be paid off through revenue from more traffic—gas and excise taxes from more autos, trucks.

Last method has inside track with Council of Economic Advisers.

Consultant to Council says 40,000,000,000 additional vehicle miles annually can pay off bonds during five-year life of program.

Here's how:

Increased gas tax revenue will come to \$220,000,000; additional excises, about \$100,000,000.

That's with no raise in rates.

Total would finance bond amortization at interest cost up to 6.2 per cent, leave \$20,000,000 toward annual maintenance bill. (Further details in Henry K. Evans article, page 77.)

► YOU NEED TO KNOW who buys what, when and where.

That knowledge is lifeblood of your business whether you're a manufacturer, wholesaler, retailer or supplier.

Or whether you're a local merchant or sell nationally.

Consumer spending study—first of its kind—will be out next year. It will help you analyze your markets.

Study's financed by Ford Foundation, will be published by Bureau of Labor Statistics.

It will line up consumers according to size of family, occupation, income, education, race, geographic location, climate characteristics.

50 basic tables will carry city-by-city detail, run to more than 5,000 pages.

Tables will show who buys how much and at what price; how many families own homes, autos, refrigerators, other durable goods—and when they were bought.

Most information comes from 9,000,000 BLS punched cards stored in a Washington basement.

washington letter

► **HIGHER MINIMUM WAGE** will be urged by Labor Department in January. But there's a provision: It must go along with extended coverage, Department says.

24,000,000 employees are covered out of potential 48,000,000.

If coverage is broadened, best sources indicate Department will ask for 90-cent floor instead of present 75 cents per hour.

► **THERE'LL BE FEWER**—and bigger—farms in years ahead.

That follows merger trend in industry, points up marketing problem of small, separated units.

And farm income trend, for the long term, is down.

That's view of Earl Butz, Assistant Secretary of Agriculture, who urges more sales effort on part of farm operators.

► **HOME FIX-UP** market grows.

Current estimates show that \$7,500,-000,000 is spent on home repair for every \$10,000,000,000 spent for new houses.

Total of 35,000,000 homes are in market for repair now. Number grows with sixth 1,000,000-plus home building year coming to end.

Fix-up centers cash in on market. They are operated by community hardware, paint, appliance, other dealers, financed in part by local banks.

► **NEW "FLOW OF FUNDS"** survey can put muscle into your sales promotion.

It's study by Federal Reserve Board. First results will be out by end of year.

Survey's divided into 10 major sectors, involves 21 types of money and credit transactions.

It will trace money flow in real estate transfers, bank loans, contract awards, and will carry interlocking receipts and payments statements for over-all economy.

Charts can guide your sales efforts to flush areas, help you cut costs, too.

► **COAL NOTE:** Planned shipments abroad will help—but not much.

Mine labor, management point out 10,-000,000 tons earmarked for FOA program is less than a week's production of U. S. mines.

And 10,000,000-ton figure includes coke.

For details on coal situation now, see "Coal's Problem: Grim Present, Hopeful Future," page 40.

► **HERE'S TIMELY HELP** for manufacturers whose government contracts are falling off.

It's U. S. Chamber's "Contract Termination Guide," published by Department of Manufacture.

Whether you're a prime or small subcontractor, guide shows you efficient system for closing out government business.

Examples:

How to submit claims, dispose of inventory, develop cost data, file settlement proposals, receive payments.

Note: Backlog of unsettled terminations runs into billions of dollars, involves thousands of firms.

Get your copy for \$1 from Department of Manufacture, U. S. Chamber, Washington 6, D. C.

► **BRIEFS:** Illinois Bell Telephone Company says its customers aren't fixed group. Average of 10 per cent drop out each year, means new crop every decade. . . . Flying hours of private aircraft gain 10 per cent annually, CAA reports; private planes now account for three times more flying time than scheduled airlines. . . . Plastics industry sales will top \$1,000,000,000 for first time this year—and volume's growing at 20 per cent yearly rate. . . . Puerto Rico's "Operation Bootstrap" plans 830 new factories, 83,000 new jobs by 1960. . . . Americans have \$220,000,000,000 investment in private housing, about 25 per cent of total national assets; in 1929, we spent 15 per cent of income for housing; today it's 11 per cent. . . . Federal Reserve still relies on department store sales as economic indicator, points out growth of suburban shopping centers makes trends less easy to analyze. . . . Urban streets this year will bear the burden of more than 250,000,000,000 vehicle miles.

A "reel" story
about a
real problem



How Can You Bring Your Key People Closer Together?

An informative sound movie shows how an Inter-communication System, tailor-made to your needs, can make inter-plant and office contact easier, faster, more productive. SHOWN RIGHT IN YOUR OFFICE WITHOUT OBLIGATION.

Key people communicating with other key people is the very life-blood of a business. Without an inside communication system, however, it requires leaving the desk or using the city-phone . . . losing time or tying-up the outside switchboard and those all-important incoming and outgoing calls. Kellogg has just produced the first movie about these communication problems and how hundreds of firms are solving them with their own Intercommunication System. For instance, it shows in action an Intercommunication System that works like your city-phone, yet requires no operator. Simply dial and you're talking . . . instantly and privately . . . with any one of hundreds of possible stations. Be among the first to see this new, dramatic film presented on intercommunication. Kellogg has exclusive franchise dealers thruout the United States and Canada. Your local Kellogg dealer will be glad to show it to you. Just fill out and mail this coupon and he'll call you for an appointment.



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Letters TO THE EDITOR

Air Force Academy site

All of the land in the foreground of your October cover is a mesa consisting of 1,630 acres which I purchased in April, 1949. This mesa was owned by Gen. William Palmer, the founder of Colorado Springs, and his estate for 60 years. It has always been known as the mesa with the \$1,000,000 view as it overlooks the Garden of the Gods City Park with its fantastic rock formations which also appear in the picture and is directly in front of Pikes Peak. The buildings in the foreground are of the Garden of the Gods Club, a private membership club opened in 1951.

The Academy site is six miles north of the area pictured on your cover.

A. G. HILL
Dallas 1, Texas

Merchant seamen served well

I have just read Sam Stavisky's story "Big Hole In Our Manpower." It was an interesting story and I am all in favor of a ready army. But sometimes I get downright mad at the lack of thought given to the young men (many then too young for other service) of the "Merchant Marine" during World War II.

They also shed blood, lost limbs, arms and many even their lives. I think it is a pity their years spent under fire can't at least be remembered. They don't want any bonus or G.I. rights; just a chance to know they don't have to be taken back in the Army any more than other fighting veterans.

I think other wives and mothers who shed tears and prayed for them would like to know they aren't forgotten by all except the draft boards.

MRS. D. BUNTON
Mazon, Ill.

Dairy farmers losing

I am a dairy farmer, 27 years old and I am writing in regard to your article, "Probe of Middleman Profits," under Washington Letter, October issue.

I do not quite agree that the charge of profiteering by middle men should be dropped, at least in the dairy industry. Dairy farmers as a whole are taking a loss and it is not a justifiable loss. There is not the big surplus of dairy products that we are told about, at least compared with others. I am not for government support of any industry or group of individuals, but I do think that it is about time something is done to improve the situation of the dairy farmer. I can name several reasons why I believe there is not the surplus of dairy products that they say there is and why the dairy farmer as an honest American businessman

should be receiving a much better price for his product, if he is to keep producing good wholesome and healthy milk for our growing population.

HOWARD W. SMITH
R.D. #2
Waverly, N. Y.

Sea Bee has plan

I have just read "Earth Movers Shape the Future" and like it. I am a Commander of the Sea Bees and had five shiploads of equipment and did "move mountains" in the Pacific and all the way into Japan.

You may be interested in my suggestion to the President.

Plan 1: Make a seaway out of the Panama Canal by a series of detonations of "A" bombs. A 15 mile seaway can be created in eight hours. This may sound "crack-pot" to a layman but I have had the experience to make it work.

Plan 2: Drain the Florida Everglades and leave vast fresh water lakes and thereby raise the ground. Produce craters in the arid areas of New Mexico and Texas, to produce vast irrigation districts.

MARSHALL D. BARNETT
Comdr. (R) U.S.N.R., C.E.C.
Society American Military Engr.

Air Force says "well done"

I am deeply grateful both to the author, and to NATION'S BUSINESS, for the very fine article on the United States Air Force Academy which appeared in the October issue, entitled "School for Jet Age Leaders." I was tremendously impressed with the meticulous accuracy of the article, its wholesome resourcefulness and its simplicity. To me, the story of our hopes, our ideals and our prayers could not have been told in a more forthright and meaningful manner.

My thanks for your great service to the Air Force.

H. R. HARMON
Lieutenant General, USAF
Special Assistant for AF
Academy Matters

P.S. How come you make me out 5 feet 6 inches tall? Insult!! Stretched to the limit I am 5 feet 8½ inches!

Proposal to end farm surplus

Many countries would like to buy America's surplus agricultural products and really need them but we do not want their exportable products because they come into direct competition with our own.

So here's a suggestion which I think is worth trying.

In payment for some of our exportable agricultural products take scrip

G.E. has the answer to air-conditioning problems in any store, office or factory



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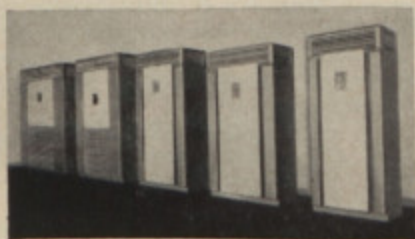
G-E climate survey helps Baltimore furniture store remodel without posting 'closed for alterations' signs

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or a form of traveler's cheques which the government could sell to those who plan to travel in foreign countries.

I believe this plan could be worked into a form of exchange that would not only permit much of our surplus to be sold into foreign countries but also be a mutual benefit to both countries.

E. MERLE STEDMAN
National City, Calif.

Recipe for sick world

One likes to see his own strong convictions expressed by persons whom he knows are intelligent, and I wish to register "Amen" to Doctor Bailey's letter in your last issue.

Years ago I heard a remarkable man say that the two things the world most needs are, 1, more religion and, 2, more education. Since September 1918, when the above was expressed by an Army Chaplain, in the mud near Montfaucon, France, I have become increasingly convinced that those words constitute an accurate diagnosis of the ills of the world in general.

E. M. CLARKE
*R.F.D. #1
Port Jervis, N. Y.*

One-way street survey

You published in July a splendid survey of one-way traffic in a number of American cities.

A referendum to do with one-way traffic is being proposed here.

The LaCrosse Tribune has already devoted one editorial to the subject, using information brought out in your article. It intends to take a further stand editorially in the matter.

Our local chapter of the League of Women Voters is about to study the subject and I would like to place your article in their hands for that purpose.

As chairman of The Traffic Commission of the City of LaCrosse, I was and am vitally interested in the question of one way traffic.

J. N. DRIBBEN
LaCrosse, Wis.


Results down under

Since we have already started receiving inquiries from the United States following the appearance of Dick Tregaskis' article on Australia in your September issue, I wonder whether you could send us the tear sheets of that article by air mail. We receive NATION'S BUSINESS regularly, but it is a long way to Melbourne and the magazine is a little over two months old before it reaches us by surface mail.

GIVON PARSONS
*American Consul
Melbourne, Australia*

The article by Richard Tregaskis, "U. S. Business Finds New Frontier," published in the September issue of your journal, has aroused great interest in Australia.

IRA RAYMOND
*Liaison Officer
Commonwealth National Library
New York, N. Y.*



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BY MY WAY

R. S. Suffero



And a little more gravy

I'VE WONDERED if there is any magic that could make a Thanksgiving dinner taste as good as such dinners did when I was a boy. Can I ever hanker after anything to eat as I did while I waited my turn for the light or dark meat, the mashed potatoes, the squash, the turnips, the boiled onions, the stuffing, the apple and mince pies, the nuts and raisins, the ultimate oranges, and grapes packed in sawdust—can I ever hanker that way again? No, I can't. I am no longer a growing boy. But I can still be thankful for many blessings, individual and general—and I am. I can even be thankful that food is so abundant for most of us in this country that a special feast doesn't signify as much as it did to our ancestors. And so, if you don't mind, a bit more of the gravy and—yes—another drumstick. And later, some plum pudding.

More turkey, less cranberry?

THE TURKEY CROP, as I write, is eight per cent or more above that for 1953, whereas the cranberry crop is 19 per cent below that for 1953. I am sorry about this, because I do like a lot of cranberry sauce with my turkey. I note, too, that relatively speaking we are eating more turkeys in months other than November and December and fewer in those months than we did some years ago. I hope this means, not that turkey meat is less festive than it used to be but that we feel festive more of the time.

Vine trouble in Chicago

A CHICAGO family thought they had a poinsettia in a pot in their back yard; they were right, but they also had something they hadn't bargained for, a plant known as the hyacinth bean which only the onset of cold weather, or perhaps the Fire Department, kept from wrapping itself entirely round their house and making off with it. At any rate, the

dispatch said the bean was 25 feet long toward the end of summer and threatening to come right into the kitchen. I can sympathize because I have vine trouble, too—bittersweet and things like that—and I have sometimes imagined that these vines didn't like me and would come indoors and drag me out if I didn't take precautions. Stout clippers used in time make the services of ax and saw unnecessary but it is sometimes a close call. I feel safer in winter, when the worst that can happen is getting frozen to death or slipping on the ice or going into a skid on the way to the station.

The dinner situation in 1854

I AM ALWAYS amazed at what our ancestors ate, or tried to eat, when they felt festive and could afford it. Let us now turn to the dinner given by the Historical Society of New York at the Astor House on Nov. 20, 1854. It offered, if I have counted correctly, 104 items, not taking in coffee or alcoholic beverages. And I suspect, without really being able to prove it, that there were alcoholic beverages. After the soup and fish there were eight roasts and eight boiled meats; seven cold ornamental



dishes, including swan on a pedestal; 14 side dishes, including broiled quail; ten cold side dishes, including boned quails for those who hadn't had too much quail already; 18 vegetables, including parsnips fried in butter, which are still good if you ask me, but nobody does; 12 kinds of game, including broiled quail for those who just couldn't get enough of that bird; 12 ornamental pastries, including a—and I quote—"Pyra-

mid of Liberty"; eight ordinary pastries and eight "confectionaries"; and finally, a pile of fruit, ice cream, orange salad and coffee. After this the members went on thinking about history—as they still do. This year they have been celebrating their sesquicentennial. But none of those who went to the big dinner in 1854 was present. This should teach us a lesson.

The hair-cutting industry

THE MAN from the Census Bureau said that last year men spent more money in barber shops than women did in beauty shops. The difference was not much—\$500,000,000 vs. the trivial sum of \$497,000,000—but if



you looked carefully you could see it. I don't think this proves anything except that maybe some women are going to men's barber shops; and that some men—and I refer, in part, to a bald-headed man I know only too well—are paying more to have their hair cut than the job is really worth. And this reminds me of the ancient story of the man who asked the barber if he should take his glasses off, and the barber said, "Mr. Jones, I could cut your hair even if you didn't take your hat off." And now let's talk about something else.

The lie detector

I WAS READING about an instrument called a lie detector, which is used to detect lies. This set me to thinking of a boy I once knew who couldn't, no matter how hard he tried, tell the truth; and as a rule he didn't try. A person didn't need an instrument to find out if he was lying—he was. I also have the impression that the more a person lies the easier it becomes and the less upset he is about it. But I suppose we need lie detectors for the occasional liar—which covers most of us. Personally, I am not going to subject myself to one unless I have to. I wouldn't dare.

A mystery cleared up

THERE IS approximately one automobile passenger car for each 3.3 persons in the United States. As somebody said, this helps to explain traffic congestion. That and the way some people—other people, of course, not you and I—drive.



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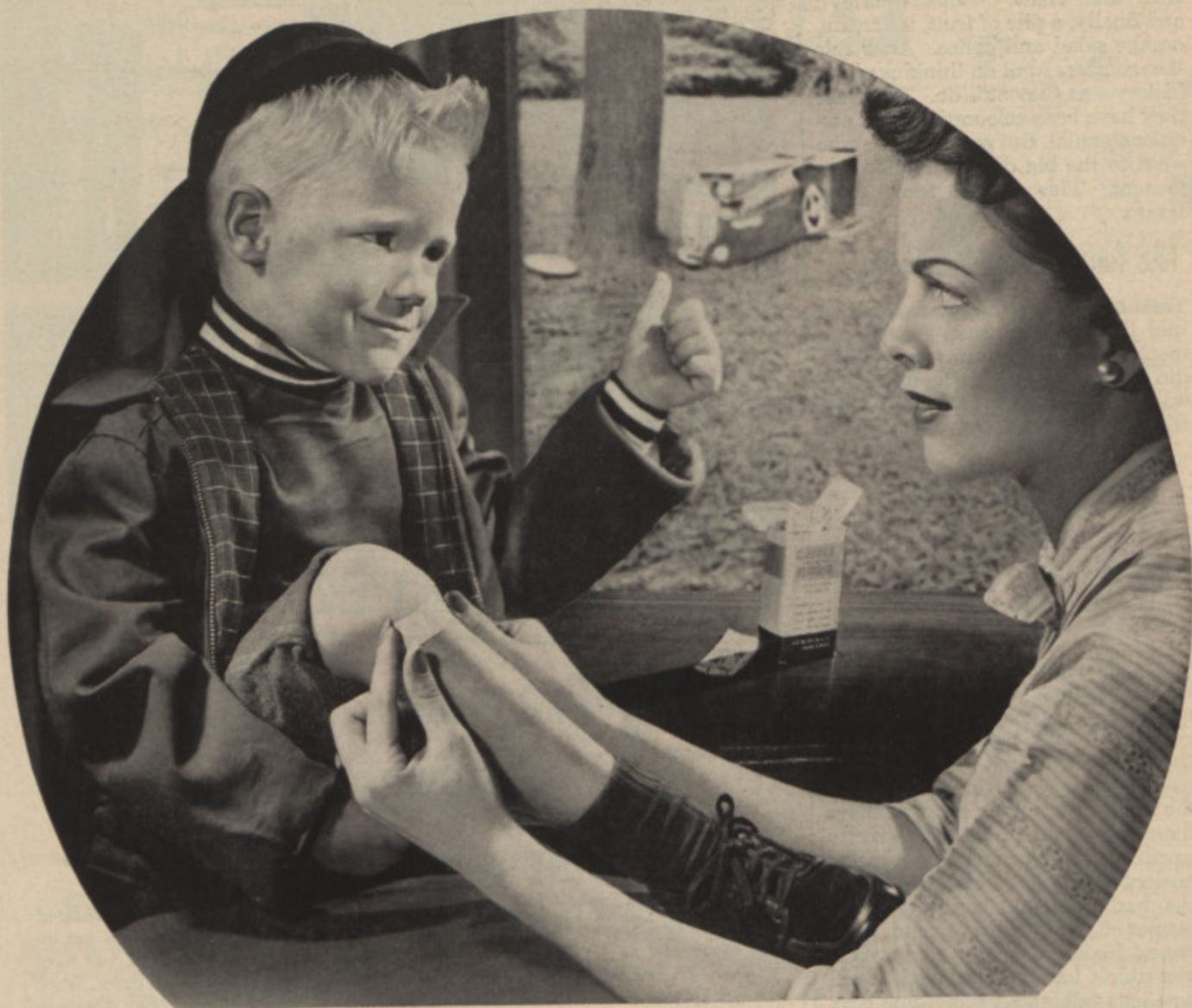
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Trends

of Nation's Business



GEORGE LOHR

THE STATE OF THE NATION BY FELIX MORLEY

ONE WORLD" was the appealing title of a book which was prominently displayed in many American living rooms only a decade ago. The author, for those whose memories are short, was Wendell Willkie, who had zoomed into prominence as Republican candidate for the Presidency in 1940.

The turbulent current of history has now buried Mr. Willkie's journalistic venture deep in the silt of oblivion. To reread "One World" today is a melancholy lesson on the frailty of political acumen. For it is based on the assumption of eternal friendship between the United States and Soviet Russia. There is not the faintest anticipation of the present situation, in which even the "peaceful co-existence" of these two postwar giants is regarded by many as improbable.

But this myopia is not altogether discouraging. Perhaps the Two World nightmare of 1954 could fade out as quickly as the One World dream of 1943. Indeed there is good reason to think that the present attempt to catalog mankind in two perpetually hostile divisions—of "slave" and "free"—is just as unrealistic as was the permanent unity that Mr. Willkie happily envisaged.

What appears to be in formation now is not one world, nor two—but three.

• • •

When the French National Assembly killed the plan for a European Defense Community, there was an indignant reaction throughout the United

States. The project, in part suggested by the French themselves, had become a central pillar of our foreign policy. Its collapse necessitated what Secretary of State Dulles had warned would be an "agonizing reappraisal." We have had the agonizing and now, with the election campaigns over, may constructively concentrate on reappraisal.

No such analysis can ignore the fact that in acting on E.D.C. France had to choose between offending Moscow and offending Washington. It did not follow, however, that, in turning against us, France turned toward Soviet Russia. Only those who are gripped by the two-world complex can deny the possibility of a purely pro-French decision which, in the eyes of 40,000,000 Frenchmen, might be neither pro-communist nor anti-American.

This was demonstrated when Premier Mendes-France accepted the alternative London Agreement, under which Great Britain agrees to become a fully cooperating member of the European community. Our State Department had previously argued that there was no alternative to E.D.C.

The British from the outset refused to participate in E.D.C. The Italians never ratified it, escaping the criticism heaped on France by deftly dodging the issue. And we tend to forget that ratification by the German Federal Republic was assured when restoration of German sovereignty was made contingent on that ratification. With the failure of E.D.C., the Adenauer government gained not only sovereignty but also admission of its right to press actively for German reunification. And German

Trends

reunification, all too clearly, can only be accomplished if Moscow gives its approval and consent.

Throughout all Western Europe there continues to be gratitude for the financial aid poured out from this country, as well as a healthy respect for our military strength. But neither American wealth nor American armies are strong enough to coerce Europeans into support of policies that seem to them unreasonable. No friendship worthy of the name can either be bought or forced. And to realize that this truism holds in international as well as in personal relations is not the least part of the overdue reappraisal.

• • •

This reappraisal was "agonizing" only because we had become bemused by "one world" or "two world" shibboleths, forgetting the sound advice of all who laid the foundations on which this republic has grown great. For instance, George Washington, who in his Farewell Address emphasized that: "Europe has a set of primary interests, which to us have none, or a very remote relation." Despite the airplane, the hydrogen bomb and all the rest of it, that still holds true.

One primary interest of Western Europe, shattered by two terrible wars within a generation, is to escape being the final battlefield of civilization. And a further fundamental European interest, essential for economic recovery, is to rejoin its severed halves by encouraging trade and travel across the Iron Curtain. Somehow we have given many Europeans the impression that we, rather than the communists, consider atomic war inevitable. Somehow we have made Europe think that we, and not the communists, are opposed to the revival of East-West trade. An honest reappraisal forces us to face those regrettable facts.

In our "one world" period many Europeans could not understand the then prevalent American enthusiasm for Soviet Russia. Today they are equally mystified by the absolute horror of communism which has replaced the earlier admiration. A people so volatile as the Americans—so Europeans are beginning to say in print—can scarcely provide the stable leadership the times demand.

Moreover, there are many in what we call the "free world" to whom Karl Marx, the patron saint of Soviet Russia, is an honored figure. The numerous and influential socialists of Western Europe fear and mistrust the communist techniques. But for Russian economic theory there is among Europe's socialists more sympathy than for American free enterprise. That sympathy finds expression in actions like the recent good will tour of the former British Prime Minister to Moscow and Red China.

Whether Mr. Clement Attlee and his Labor col-

leagues did well or ill to make that controversial visit is another issue. The point, for reappraisal, is that they made it. And that junket was all of a piece with the action of Norway, Sweden and Denmark in voting, at the current U.N. Assembly, for the admission of Red China. It was in the same pattern as the olive branch recently held out to Moscow by Marshal Tito, in the speech where he welcomed the collapse of E.D.C. and said: "There is no place for Yugoslavia in a bloc which has an anti-socialist tendency." Further evidence is found in the resolution adopted, 76 votes to six, by the Consultative European Assembly, indorsing establishment of a special agency to promote trade with the Soviet bloc.

So any postelection reappraisal of our foreign policy will soon conclude that our neat division of "free" and "slave" worlds is unrealistic. Between our frankly capitalistic society and that engulfed by communism there is an intermediate European world. As it recovers economic strength the leaders of this third world may be expected to speak with ever less deference to American, as well as to Russian, susceptibilities. And the fact that the European mind is not the American mind should cause the less distress because we have always prided ourselves on being different.

• • •

By "neutralism" in Europe is meant an attitude of independence from both the U.S.A. and U.S.S.R. This neutral attitude is making headway. In France it killed E.D.C., and it may be stimulated by the alternative to E.D.C., which is a European rather than a pro-American grouping. This is the cause of no little concern to many columnists who, like Wendell Willkie before them, have become overnight experts in the field of foreign policy.

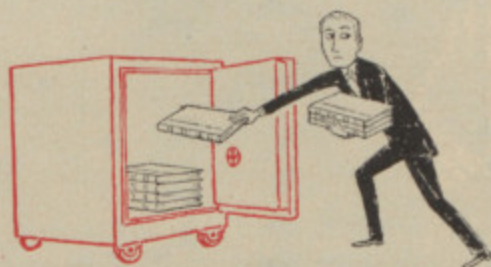
Yet any reappraisal in this field must soon remind us that the United States, for generations, believed in and practiced the policy of neutrality. Much can be said for that policy, which by its balance and objectivity tends to exercise a certain restraint on a potential aggressor. Of course neutrality may have to be abandoned, as we abandoned it to side against Germany in 1917. But Americans are certainly among the last who can call neutrality dishonorable in principle.

A variant of the neutrality policy, as practiced by Great Britain under the name of Balance of Power, was instrumental in making the Nineteenth Century comparatively peaceful in Europe. As the name suggests, this policy consists in directing a neutral strength—call it "Z"—impartially for or against the forces "X" and "Y," depending on which of the two "Z" deems at any moment the more serious threat to peace.

Great Britain alone is no longer strong enough to play this balancing role. But Western Europe, with British cooperation, could do so. That this may be the shape of the future is more than possible.

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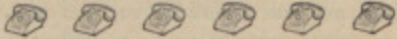


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GEORGE LOHR

Trends of Nation's Business

WASHINGTON MOOD

BY EDWARD T. FOLLIARD

WHENEVER I move around the United States, I remember that British reporter who was with us on the Truman Special in 1948. It was his first trip across the continent. He was awed by the country's size and dazzled by its wealth. Rolling down California's lush Sacramento Valley, the Britisher got to thinking that America once was a British crown colony that got away, and he exclaimed: "Damn King George the Third!"

Our British friend, I believe, would now be much impressed by the building boom in the United States. It is, as they say, terrific. The Denver skyline is being changed as towering buildings go up around the Brown Palace Hotel. The sound of the riveters is familiar in other cities too, and there is no sign of a let-up.

A traveler can hardly fail to notice the far-flung stretching out of towns and cities, with new homes and shopping centers popping up all over the landscape.

It is an astonishing thing, when you think about it, that home owners outnumber tenants in the United States by a substantial margin; that 57 per cent of American families own their homes (according to the United States Savings and Loan League) and that the number is growing by 1,000,000 annually.

There still seems to me to be a shortage of hotels in the land, although the hotel people may feel differently about it. Statler has a whopping new one in Los Angeles, also a new one in Hartford, and is building one in Dallas. I heard talk of plans for a new 20-story hotel in Portland, Ore., to be built with Texas money. From my own experience in getting a room in Portland, I would say that a new

hotel there would come in handy. The same goes for many other cities.

More experienced travelers might find such things commonplace, but I was struck by the tremendous increase in the number and variety of vending machines. It seems not so long ago when the only thing into which you dropped a coin was a pay telephone or a penny weighing machine. Now the mechanical salesmen are all over the place, providing you with candy, cigarets, soft drinks, postage stamps, newspapers and magazines. There is even a contrivance that shines your shoes automatically.

Another striking development in our culture is the growth in the popularity of the paper-backs—the 25 cent mysteries, westerns and adventure stories that are to be found stacked up in every hotel lobby and drug store. Evidently, the publishers have a hard time in supplying the demand.

The food situation certainly is on the upgrade. I don't ever remember meeting an American youngster who aspired to be a chef (a well-paid and honorable profession, incidentally). Nevertheless, it seemed to me in my travels that the quality of the cooking and the food in the hotel dining rooms and independent restaurants has improved, especially in the Midwest, the Rocky Mountain area and the Far West.

Another thought: Wherever you go now, thanks to air freight, you are likely to find Maine lobster on the menu.

To turn to politics, which was really what took me around the country, I found politicians nearly everywhere complaining about "voter apathy." I rather think apathy is a poor word, suggesting, as it does, dullness or laziness. What the politicians were up against this year, and will be up against in the future, is a combination of distractions that mean much to Americans.

First, in the late summer, come the state and county fairs, which, I have read, attract 85,000,000

Trends

people every year, more than half the nation's population.

Then comes the World Series which beguiles many people all over the United States, including millions outside of the major-league cities. Finally, we find delightful distraction in the doings of Notre Dame and other powers of the football world.

Truly, all this makes it tough on the politician.

But what sometimes appears to be apathy on the part of the voters is not that at all. It is just that the political orators, especially those operating out of Washington, have misjudged the voters' interests. Often what the strategists in Washington have decided are the "issues" are matters that hold little interest for the people in the so-called hinterland.

Here in the national capital, for example, you hear little about water power, reclamation and irrigation. But once you get to places like Denver, Cheyenne and Portland, you hear about little else. This is understandable, too, when you see what power means in the way of attracting industry, and when you see the miracles that irrigation works in making former wasteland produce grain, fruit and vegetables. Water is gold to people in such regions.

There is, however, one matter that is of transcendent importance everywhere. That is the issue of war or peace, the position of the United States in relation to the rest of the world, particularly Soviet Russia and Red China.

You don't hear a great deal of talk about it, but the interest is there just the same.

I thought I detected an important change in the attitude of rank-and-file Americans. There seemed to be fewer advocates of a "preventive war." Not once did I hear a remark that used to be fairly familiar, "Why don't we just drop a bomb on Moscow?"

If my reading of public sentiment was at all correct, there is a deep-seated aversion to any kind of war, Korea-size or global, and also to any kind of incident or policy that might lead to war.

At the same time there seems to be less fear of a war; that is, what we would think of as World War III, a great struggle involving the United States and Russia, which would bring superbombs crashing down on our respective countries.

If you took this attitude a few years ago, and argued that the chances for peace outweighed the chances of war, you were in danger of being called "complacent." But this now is the mood of official Washington, too, coupled with an on-guard posture and a determination to keep the free world strong.

President Eisenhower certainly does not think that the Russians would deliberately provoke a great war, and he has said so a number of times.

Adlai Stevenson, who made a trip around the world last year and talked to some of the world's leading statesmen, shares the President's viewpoint.

Gen. Alfred M. Gruenther, supreme Allied commander in Europe, who now stands a good chance of having his forces bolstered by 500,000 West Germans, thinks the outlook for peace is excellent so long as nations of the free world stand together.

Former Governor Stevenson, in his new book, "Call to Greatness," sizes up the Russians in this way:

"In one important respect, it is fortunate that the adversary in the atomic age is totalitarian bolshevism rather than totalitarian nazism. The latter, personified by Hitler and unthinkable without him, was suicidally romantic and naively irrational.

"There is good reason to believe that the Kremlin, with or without Stalin, resembles the bookie rather than the gambler. It will calculate the odds. It will take risks, but it won't risk everything."

George F. Kennan, formerly American Ambassador to the Soviet Union and one of the world's foremost authorities on that mysterious land, holds a viewpoint remarkably like that of Mr. Stevenson. In his new book, "Realities of American Foreign Policy," Mr. Kennan says:

"In the Soviet regime . . . I have never detected any suicidal tendencies and I will do its leaders the justice to say that while I think them very misguided people and have no high opinion of their intentions with regard to this country, I do not suspect them of any desire to wreak upon others some fearful measure of destruction just for destruction's own sake. . . .

"These people are not ogres; they are just badly misguided and twisted human beings, deeply involved in the predicaments that invariably attend the exercise of great power."

What many Americans must ask themselves as the struggle between freedom and tyranny goes on is: When will it end and how? What is the solution?

Adlai Stevenson has an answer that is almost startling, at least to those who like quick action and believe that there is always a solution if only you try hard enough to find one.

He says there may be no solution, not now anyway. He suggests that Americans must practice patience and fortitude, and learn to live with the problem—for years, maybe even for centuries.

But doesn't there have to be a decision, a showdown one way or the other?

The answer of the Illinois statesman is: Not necessarily.

He reminds you that the conflict between Moslem and Christian, which dominated world politics for 300 years, never was resolved. It just ceased to preoccupy the minds of men as other problems came along to overshadow it.




It takes a Giant to catch a Giant

It's always exciting to watch a little guy challenge a big guy—and win. That's why Jack the Giant Killer has topped the list of popular children's stories for centuries. And that's why we think the oil business is the most thrilling business in the world. It's a contest between Men and a modern Colossus.

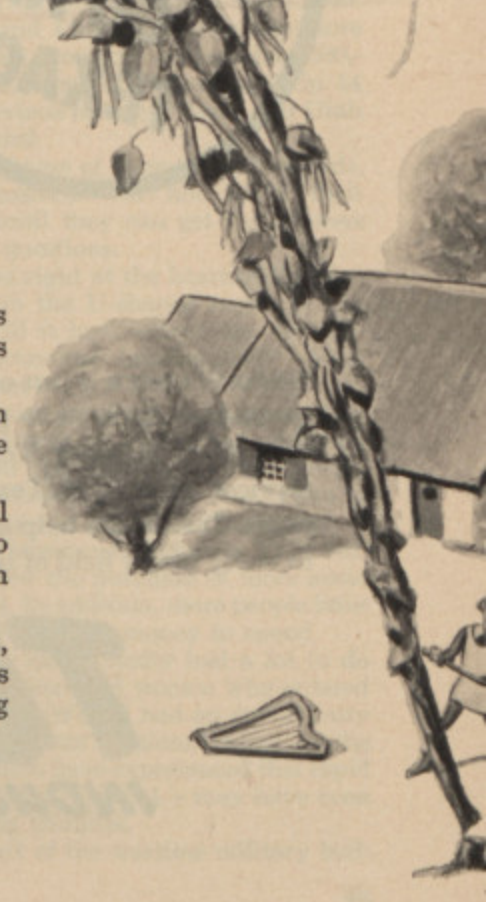
Not just any men. It takes men of tremendous initiative and daring—giants in their own right—to stalk the reluctant giant, Petroleum, drag him from his lair, civilize him, and put him to work.

Cities Service is well equipped with such men. Geologists who, at great personal hardship, track down the giant in his native haunts. Production men who risk all to bring him out alive. Refinery operations men, who domesticate and train him. Research men, who think of new ways to utilize his strength.

The mammoth muscles of petroleum have taken over some of mankind's hardest, most back-breaking jobs. We think a lot of credit is due the great-hearted Cities Service "Jacks" who've devoted their lives to finding, catching and domesticating this mightiest of modern "Giants."

CITIES  SERVICE

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TOUGH JOBS
GO TO
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TEXACO
INDUSTRIAL LUBRICANTS





CONSTRUCTION BOOM:

no end in sight

By EMERSON P. SCHMIDT

ONE FIFTH of America's population moves to a new location every year.

This mobility, coupled with a 30,000,000 increase in population since 1940, provides a powerful undergirding force for the construction industry. That's the big reason why construction is running ahead of the nation's other industries.

Moreover, the end of this boom is not in sight. Work now in the hands of architects indicates that construction will continue as a buoyant sector of the economy supporting, in its turn, utilities, household goods and appliances.

The question then becomes: How can business best take advantage of this boom?

To answer one must first examine the record of population shifts, determine why they have occurred and what their results have been.

Geographically, this growth has not been distributed on an equal basis. Locally there has been movement from the cities to the suburbs; nationally, to the West and South.

Our greatest expansion has occurred along a U-shaped line which begins in the states of Washington, Oregon and California, reaches down to San Diego, then rolls eastward through Nevada, Utah, New Mexico, Arizona, Texas, Louisiana and Florida. This line of better-than-average growth extends up the Atlantic Coast to embrace Virginia, Maryland, Delaware, New Jersey and Connecticut.

As a result, one out of every eight nonfarm jobs today is in California or Texas. These jobs now number two and one half times those of 1939. In 1939 California had half as many construction workers as New York State. Now California leads; its factory jobs increased about 180 per cent from 1939 to 1953, as against an increase of only 30 per cent in Massachusetts, and 71 per cent in the country as a whole.

In 1953 the West and South had 19,000,000 nonfarm

jobs. In 1939 there were only 30,000,000 nonfarm jobs in the entire country. (According to Census definition, the South includes states from Maryland south, then on toward Texas. The West includes the mountain states, plus the Pacific Coast.)

Washington and Oregon have increased their respective populations by more than 40 per cent since 1940. In California, Nevada and Florida the rise was more than 75 per cent. Arizona jumped from less than 500,000 to almost 1,000,000, thus gaining as much in 14 years as in its entire previous history. Texas and Utah jumped by about one third.

Despite the impressiveness of these growth records, forward-looking businessmen will not build their future plans on them until they can get the answers to several fundamental questions.

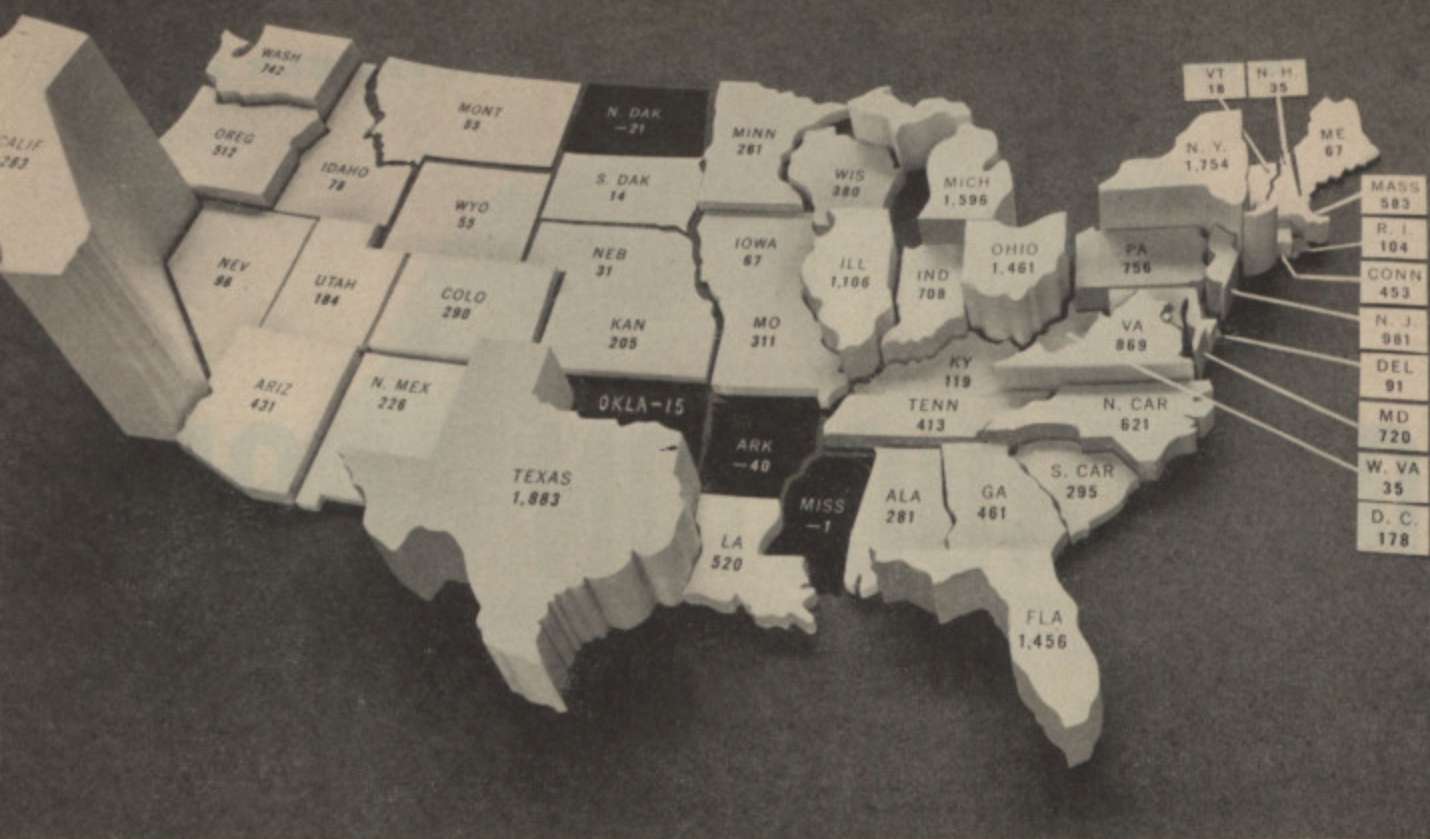
These questions strike right at the heart of the phenomenal development in the U-shaped sector of our economy: How long will it last? What are its long-range business and economic implications? What caused it in the first place?

The automobile explains much of it. A generation ago a family would not pull up stakes and suddenly move to the far side of the country. Today nearly everyone owns an automobile and our population is highly mobile. It is cheap and easy to pull up stakes.

As auto use grew, improved highways followed. These in turn encouraged the purchase of more automobiles and more travel. In addition, more people have paid and longer vacations, more money to spend.

The war mobilization undoubtedly had a lot to do with it. The 20,000,000 men and women who entered the armed forces in World War II had an opportunity to see and evaluate different sections. Most of the camps were in states which have experienced this rapid population growth. Some of the G.I.'s may have been lured back by appealing climates.

Moreover, a large part of the wartime military bud-



This relief map illustrates the nation's U-shaped population growth since 1940. The figures shown here for each state are in thousands ▲

get was poured into areas where the rapid population growth is taking place. Operation of the resulting establishments created enormous payrolls. This fostered new private investment in service and other facilities. Factories were built during the war and afterward to supply new regional markets. This, in time, created jobs in the factories, transportation and other services and enterprises.

After the Korean outbreak, the government adopted a national defense policy of allowing rapid depreciation of investment in new plants and equipment for income tax purposes, providing that the new investment was made in non-congested areas. This not only stimulated the growth of the U-shaped section, it encouraged developments outside of metropolitan areas everywhere.

Furthermore, the shift from coal to other fuels reinforced the settlement of the West and South. Oil, natural gas and hydroelectric power were abundant or readily available in many parts of these rapidly growing sections.

In addition to this growth on the outer rim of the country, we have pushed out the boundaries of our cities and overflowed into the suburbs and even more distant farm regions. This trend, too, rests on the rise of the automobile and good roads.

To have "a place in the country" is a widespread desire. To get away from smoke, noise, tension, congestion and the sometimes artificial character of densely populated cities is a strong urge in the breast of many men and women.

From 1940 to 1950 the population in major cities increased from 43- to 49,000,000 or by nearly 14 per cent. In that same period the population just outside of these central cities increased by nearly 9,000,000 or more than 35 per cent.

Among the ten largest metropolitan areas in each instance, the area outside of the central city increased

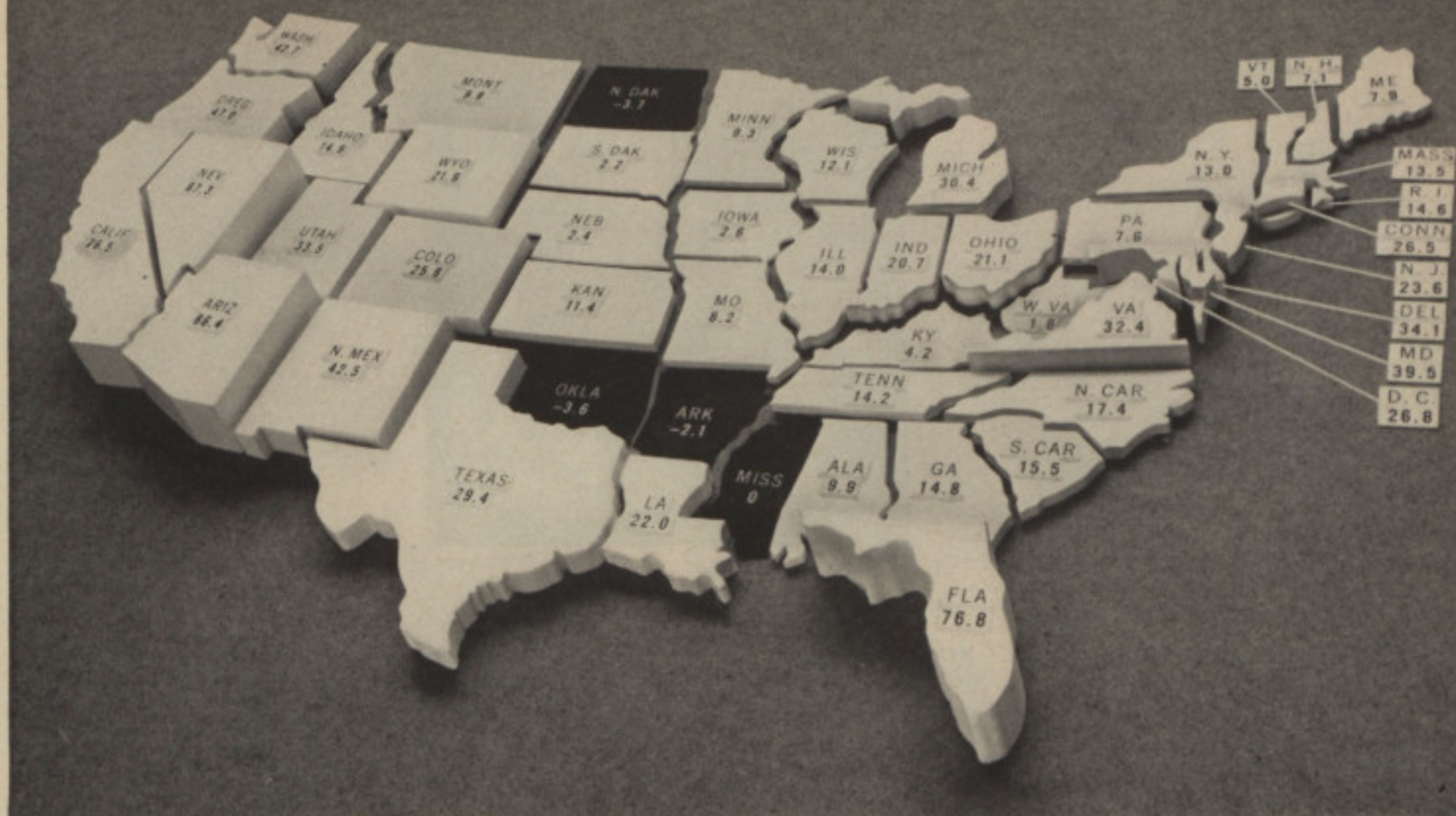
at a rate at least twice that of the central area as indicated in the accompanying tabulation.

	Per cent increase 1940-50		
	Total	City	Outside
1. New York	+10.7	+ 5.4	+ 23.2
2. Chicago	+13.9	+ 6.6	+ 31.2
3. Philadelphia ..	+14.7	+ 7.3	+ 26.1
4. Los Angeles ...	+49.8	+31.0	+ 69.8
5. Detroit	+26.9	+13.9	+ 54.8
6. Baltimore	+23.5	+10.5	+ 72.9
7. Cleveland	+15.6	+ 4.2	+ 41.6
8. St. Louis	+17.4	+ 5.0	+ 33.8
9. Washington ...	+51.3	+21.0	+117.1
10. Boston	+ 8.8	+ 4.0	+ 11.5

In a number of cities the total metropolitan area population grew substantially while the population in the central cities declined. This was the case in Charleston, S. C.; Lawrence and Lowell, Mass.; Providence, R. I.; and Wilmington, Del.

As people move to the suburbs better roads are built. These make coming and going easier, thus inspiring still more people to move into the suburbs. The people who move want an abundance of services, and alert businessmen are ready to meet these opportunities. Stores of every variety, frequently whole shopping centers, are established. These facilities attract still more people. Before long a doctor opens an office, then comes a dentist, a lawyer, a realtor, a mortician and so on. The cycle repeats itself over and over. Light and heavy manufacturing plants become established in or near the suburbs.

The research study by the Chamber of Commerce of the United States, "What New Industrial Jobs Mean to a Community," demonstrated that for every 100 new factory jobs another 74 jobs were created in retail, construction, professional and other enterprises. Each 100 jobs means 296 more people, 112 more house-



On a percentage basis Arizona has experienced the greatest population increase in past 14 years. Most states in black have had decreases ▲

holds, 51 more school children, nearly \$600,000 of additional income, and \$360,000 in retail sales.

Each upgrading of the available facilities and improved parking and road facilities makes a suburb more attractive. Workers, farmers and others come there to shop or find jobs, recreation or amusement.

Thus, this great outward movement has self-sustaining or self-reinforcing generative powers.

New housing legislation, high rates of savings, a plentiful supply of mortgage money with low down payments and long payoff periods—all these combine to strengthen this expansion.

Since the end of World War II we have built more than 9,000,000 new dwellings. Since 1945, more than one family in every five has moved into a new house—an achievement never attained before. Nor is there any significant sign of overbuilding.

Total construction has been running along at the rate of about \$35,000,000,000 a year since 1949. One type of construction tends to stimulate other types.

By 1975 the replacement rate of housing may reach 500,000 to 600,000 houses a year, against a figure only a fifth of that at present. As the costs of new housing are reduced through more standardization, preassemblies and prefabrication, and as the quality and conveniences of the newer structures continue to improve, the American people can be expected to put more money into new housing.

In fact, the impact of both this suburban movement and the great growth in the U-shaped rim of our country in some ways parallels the settlement of the West in the Nineteenth Century. A hundred years ago, young men were advised to "go West." They went.

For the most part neither of these developments has come at the expense of other parts of the country or the over-all economy. Indeed, the Great Lakes region also has demonstrated spectacular growth, with Michigan's population rising by nearly one third since 1940.

In the 1930's we heard much of a mature economy, of economic stagnation. This school of thought is dead. Backing up population shift is the enormous growth in total population. In the 1930's we added only about 9,000,000 to our population and in the 1940's about 19,000,000. But if recent rates persist we will add some 25,000,000 in the decade of the 1950's.

New expenditures for plant and equipment have been declining for more than a year. They may decline some more in 1955. But much of our plant and equipment is obsolete. Automation is coming. Competition is becoming fierce. All this will help support investment in new plant and equipment within a few years.

Military and other national construction are tending down. State and local construction should be strong for years ahead. Commercial and residential construction have a lot of life left in them. The same is true of recreational facilities, both public and private.

New investment tends to go forward unevenly, line by line. A shrinkage in one line may be the signal for other lines to move ahead. In terms of the good health of the economy as a whole, the maintenance of total outlays is important and we should expect a continuous variation in trends, line by line. Manufacturers, distributors and contractors need to recognize this important fact and to shift with changing needs.

The enormous expenditures on science, research, new product development and improvement, new raw materials and new uses for others all spell potential growth and progress. Whole new industries are being born every year. Others grow. A few decline and pass out. But the wise, energetic businessman, aware of these developments, will find opportunity unlimited.

With a favorable political climate, monetary and credit policies conducive to noninflationary growth and a tax structure which encourages business, the business executive can plan ahead to make still greater things come true.

END



GEORGE LOHR

CANADA

world's fastest growing economy

Our neighbors, no longer content to be suppliers of raw materials, are putting muscle and money into an all-out effort to build a modern industrial nation

By **TRIS COFFIN**

MONTREAL—A mighty industrial power that may one day out-produce the United States in basic metals and chemicals is being born across our northern border.

Canada's is probably the fastest growing economy in the world and today Canada is the world's third most industrialized nation. It is growing so fast and with such a rugged vigor that not even the shrinking of Canada's world markets or a farm recession can break its boom.

Personal income, new capital investment and consumer spending are at an all-time high. Every citizen in this storehouse of nature and land of tomorrow consumes 60 per cent more in goods and services than he did a quarter century ago. Canada's population is 15,000,000, up 1,000,000 since the 1951 census. Since the start of World War II Canada's national output has quadrupled. Industrial growth has surged ahead of the power supply in Ontario Province, where cheap water power is a major attraction.

The spirit of Canada's progress is so infectious that a practical, hard headed American businessman, Secretary of the Treasury George M. Humphrey, said wistfully, "I'm a great bull on Canada. It ought to be the greatest opportunity in the world for a young man. I wish I were 25."

To back up the Secretary's view, Canadian business leaders confidently predict that the gross national

product, now nearly \$24,000,000,000, will double by 1975.

The riveter's gun echoes from the manufacturing centers of Montreal and Toronto to uranium towns of Saskatchewan fulfilling giant expansion programs.

Canada is as loaded with faith in the future as a June graduate, and the conservative *Financial Post* headlined recently,

**"MORE JOBS AND BETTER BUSINESS
IN SIGHT FOR COMING YEAR.
EXPERTS FIND OUR
ECONOMY IN GOOD SHAPE."**

Help wanted ads plead for engineers, mechanics and technicians. New uranium or iron ore or oil strikes are reported almost daily, and local stores feature for today's pioneer,

"Thermowear, the Scientifically Designed Clothing That Keeps You Warm at 30° Below Zero."

Canada today is in the air-atomic age with no backward glances. The helicopter has replaced the prospector's burro, and the Geiger counter the pan. The airport at the booming oil town of Calgary is crowded

Top: New 1,772-mile-long Interprovincial pipeline
Center: Pulp plant at Smooth Rock Falls, Ontario
Bottom: Installing power lines for an Alcan project

IMPERIAL OIL LTD.

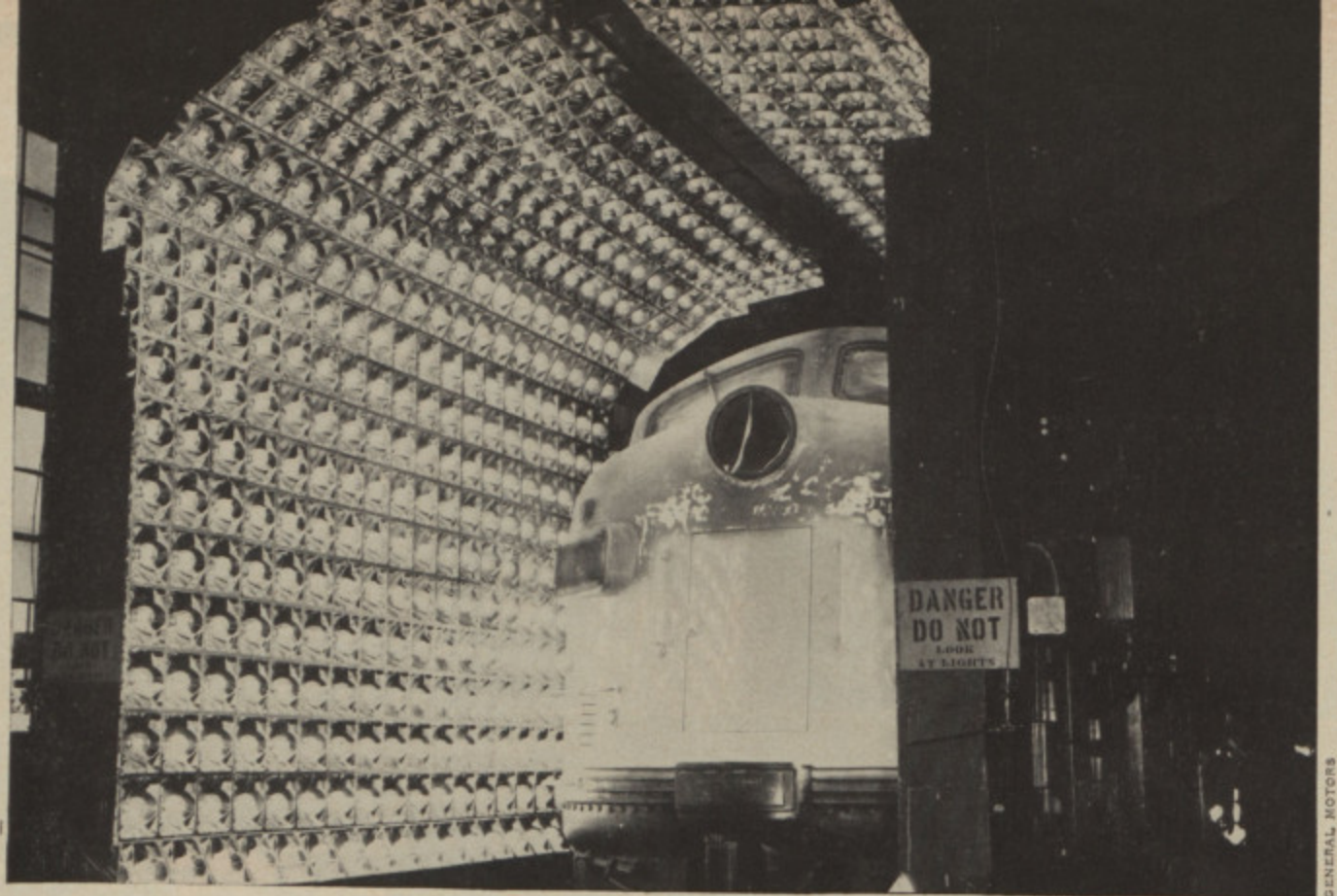


GEORGE HUNTER



ALCAN





Heat from 720 infrared ray bulbs dries paint on new locomotive at General Motors Diesel, Ltd.



Alcan president R. E. Powell says that salesmanship has a lot to do with Canada's development

with the private planes of 40 companies including such well known names as Socony-Vacuum and Sun Oil. Air transports loaded with men, equipment and supplies fly clear to the Arctic Circle in this battle of man against wilderness.

Canada's industry has popped up like Jack's fabled bean stalk. Seven thousand new industries have sprung up since the end of the war, and the manufacturing output has doubled. Companies that did not even exist at the time of Pearl Harbor now own plant and equipment worth more than \$50,000,000. New

capital expenditures climbed to a peak last year, and are expected to top that with \$5,838,000,000 this year. Almost \$36,000,000,000 has been plowed into the economy since V-J Day.

The United States' stake in this is enormous: nearly \$9,000,000,000 invested; an annual exchange of \$7,000,000,000 in goods and services. Canada is more important to the U. S. as a supplier than all of west Europe including Britain, and Canada gets more than two thirds of its imports from us. American brand names are as familiar in Arvida, the aluminum town of north Quebec, as in Muncie, Ind. Half of the new oil millionaires in Calgary speak with a Texas drawl.

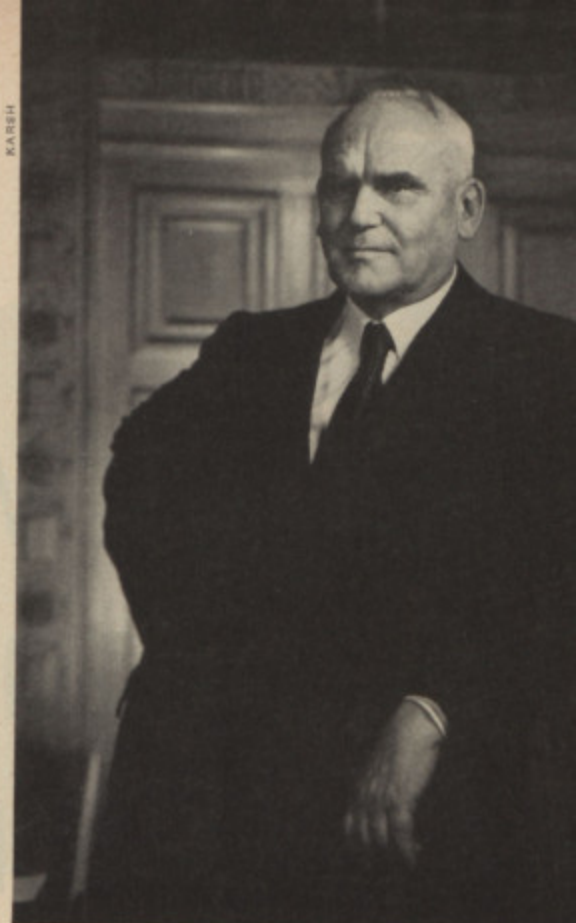
Cyrus Eaton, the Cleveland industrialist born in Nova Scotia, is the "local boy makes good" hero, because of his immense iron holdings in Ontario and Ungava Bay. More than 1,000 American companies, including DuPont, Standard Oil and A. & P., have Canadian branches. Americans own three fourths of the shares of Aluminium, Ltd., the \$1,000,000,000 corporation with the exciting Kitimat development.

Five great American steel companies, Republic, National, Armco, Wheeling and Youngstown Sheet and Tube, together with the powerful M. A. Hanna Company of Cleveland, are combined in one of the great adventures of Canada. They are exploiting a mammoth iron find along the Labrador Trough and expect to draw 20,000,000 tons of this metal from the earth by 1961. The St. Lawrence Seaway will be of immense value to the project, giving it inexpensive access to American steel mills.

As important as American dollars and trade is the Canadian leadership made in the U.S.A. The boom to the north is driven ahead by the type of leader Canada's dynamic, square-jawed Minister of Trade and Commerce, C. D. Howe, described when he said, "An industry is built around a man with specialized skill and driving ability. Until that man comes for-



Canadians say Canadair's F86 Sabre jet, shown in dive, is world's finest combat plane. Plane uses Canadian-built Orenda engine



Canadian business executives praise C. D. Howe, Minister of Trade and Commerce

ward to take active charge, there will be no industry."

Mr. Howe, a guiding spirit of Canada's boom, is himself from Waltham, Mass., and a graduate of M.I.T. Thayer Lindsley, head of the appropriately named "Ventures Ltd.," known as "the dreamer of Canadian industry," and the man behind the \$1,000,000,000 Yukon development project, was born not 15 miles from Mr. Howe and was educated at Harvard. R. E. Powell, the sage, white-haired president of the Aluminium Company of Canada, grew up in Illinois and sold pots and pans house to house in the Midwest. William A. Wecker, president of General Motors of Canada, comes from Pittsburgh and is a Carnegie Tech alumnus. Horace J. Fraser, general manager of the Falconbridge Nickel Mines, taught for seven years at California Tech. John J. Hopkins, managing director and board chairman of the phenomenal Canadair, is a New York lawyer. Frank R. Deakins, president of RCA Victor of Canada, came from Tennessee.

Today, the U. S. buys more than half of Canada's total exports, more than three times as much as the next largest market, the United Kingdom.

American business, with its immense stake in Canada, might well sit down at the table with its friends to the north, assess this industrial expansion, study the factors behind it, and find out where it is going.

To start off, Canada's growth centers around metals, pulp and paper with its sidelines of plastics and chemicals, oil and natural gas, and such brilliant war babies as electronics and jet aviation.

The Yukon plan of Mr. Lindsley will exploit the immense, unused water power of northwest Canada to run refineries and smelters for nickel, cobalt, iron, steel, manganese and probably aluminum. Ores would come from as far away as southwest Africa and New Caledonia. The plan is to divert the flow of the Yukon River and neighboring streams to the valleys below.

Three tunnels will be bored through sheer mountain rock, one of them 9.7 miles long. Nearly \$213,000,000 will be spent to harness 4,300,000 horsepower.

A similar project is planned for Hamilton Inlet across the nation in Labrador. There a falls twice the height of Niagara will turn the turbines for a metallurgical and manufacturing development.

Another daring "man against nature" project is Kitimat, called the biggest operation ever tackled by private enterprise. An awed Canadian writer described this Aluminium Company of Canada development as "a fabulous extravaganza of Twentieth Century engineering, which eight years and \$600,000,000 later, will have transformed a rugged, uninhabited hinterland the size of Ireland, now occupied by forests, mountains and grizzly bears, into an industrial colossus boasting the world's biggest aluminum smelter, the world's biggest single hydroelectric power house, and a brand new British Columbian city."

The first stage of Kitimat was completed this year. It is coupled with an expansion of 71,500 tons capacity at Arvida, the ingot-producing center in upper Quebec.

This new giant has no intention of fighting a battle of markets with the United States. Rather, Alcan would like to produce ingots for America and Europe to fabricate. The Alcan economists claim they can produce ingots cheaper than in the U. S., thanks to cheaper water power.

Canada's steel industry has grown from 1,500,000 tons in 1939 to an expected capacity of 5,000,000 tons next year. This is still 1,000,000 tons short of Canada's own needs. The program for new plants alone in the postwar era cost \$250,000,000.

This growth has meant more business for Canada's great new iron ore mines, such as Steep Rock in Ontario, America's coal industry, Great Lakes barges and fabricating plants all across North America.

How the spread of the (Continued on page 62)



WHO owns the air?

A MAJOR legal war is building up over the question of who owns the air over your house.

Courts are expected to rule soon in three cases that could affect millions of Americans and, conceivably, could wreck America's airline industry by shutting down or severely restricting use of its air terminals.

The flight of aircraft over communities adjacent to airports forms the basis for the legal battles that probably will have to be decided finally by the United States Supreme Court, but the principles involved are simply ownership and control of the air.

The battle line is so rambling that it's sometimes hard to know who's on your side. In Cedarhurst, Long Island, the municipal government threatens to close nearby New York International (Idlewild) Airport, by means of an ordinance establishing minimum altitude for flight over the village.

In Pittsburgh, on the other hand, the municipal government is fighting to keep its giant airport going, in the face of legal assaults by property-owners.

Newark and four adjoining towns are blasting away at Newark Airport with just about every charge to be found in the law books—nuisance, trespass, and taking without compensation. The embattled Jerseyites have as targets the Port of New York Authority, the federal government, and seven airlines.

The question that underlies all others is, "Who owns the air?" If you own all the air above your land, it would be a simple legal matter to show that airplanes flying over you are trespassing.

But the common-law doctrine that property rights extend to heaven itself was brought into question in England as early as 1815. Lord Ellenborough at that time ridiculed the idea that "an aeronaut is liable to an action of trespass . . . at the suit of the occupier of every field over which his balloon passes. . . ."

Congress sought to clarify this in the Air Commerce Act of 1926. But the Act often has been interpreted to limit the very freedom of the air which it was intended to secure. Most significant in the current legal tangle is the Act's statement that "navigable airspace means airspace above the minimum safe alti-

tudes of flight prescribed by the Secretary of Commerce . . . and such navigable airspace shall be subject to a public right of freedom of interstate and foreign air navigation. . . ."

This made the fundamental definition of what is the open road of the air hinge on the altitude regulations to be prescribed by the Secretary of Commerce. Those regulations further clouded the issue. They said, in essence, that except for take-off and landing, aircraft shall not be flown below 1,000 feet over congested areas, or below 500 feet elsewhere.

The Civil Aeronautics Board used virtually identical language in its traffic rules, which now govern the air. It was never made clear, however, exactly what were minimum safe altitudes for take-off paths and landing approaches.

The broadness of the language probably is justified from a technical standpoint, since safe altitudes for take-off and landing vary with the type of airplane, the particular airport, and even weather conditions.

But this omission has opened the gates to a chaos of varying legal interpretations that would have astonished the architects of the 1926 law. The House managers of the bill stated that "provision as to rules for taking off and alighting . . . were eliminated as unnecessary specification, for the reason that such rules are but one class of air traffic rules" and "in order that the term (air traffic rules) might be given the broadest construction by the Department of Commerce and the courts."

The courts, however, seem to have been hypnotized by the exactness of the 1,000 and 500 foot minimum altitudes in the regulations, which overshadow the rather vague preceding phrase, "except where necessary for take-off and landing."

The Supreme Court in 1946 ruled that Thomas L. Causby, a farmer, could collect damages for the death of his chickens, allegedly caused by the flights of military airplanes from an adjacent airport.

But lawyers are still arguing about what theory guided the decision.

Taking this finding as encouragement, however, the citizens of some metropolitan areas have tried to erect "Detour" signs in the skies. Their recent efforts to do so by local ordinances focus attention on the second big issue, "Who controls the air?"

Earlier attempts by the states to establish their own air traffic rules were decisively quashed in the courts, as far back as 1929. In that year, a court held that "federal regulations must be paramount."

The late Supreme Court Justice Jackson reaffirmed this point in the 1944 case of *Northwest Airlines vs. Minnesota*. He held that "federal control is intensive and exclusive."

Ignoring these findings, the village of Cedarhurst in 1952 passed its now famous ordinance. This banned all aircraft operations over the village to a height of 1,000 feet.

Cedarhurst is so close to Idlewild Airport that enforcement of its ordinance would all but shut down the \$100,000,000 facility because, as the CAA and CAB told the court, "aircraft taking off from or landing at the airport are incapable in the course of normal and safe operations of crossing over the boundaries of Cedarhurst at an altitude of 1,000 feet or more."

That is why the aviation interests involved quickly got an injunction, which so far has kept the ordinance from being more than a poised sword. Whether the sword will fall may soon be decided, because the U. S. Court of Appeals has said that "in view of the importance of the interests involved and the potentially far-reaching effects of a decision, the case . . . should proceed to trial as rapidly as possible. . . ."

END

—RAYMOND NATHAN

Corn harvest



From 15%: Industries worth Billions

REFINERIES



PENICILLIN
YEAST
STARCHES
SYRUPS
SUGAR
OIL MEAL
CRUDE OIL
REFINED OIL
OLEOMARGARINE
MAYONNAISE
SOAP
PHARMACEUTICALS
BEER
ADHESIVES
BAKING POWDER
TEXTILES
PAPER
EXPLOSIVES
COSMETICS
ICE CREAM
BAKERY PRODUCTS
CANNED FRUITS
SOFT DRINKS
CHEMICALS
FOUNDRY WORK
MINING
OIL WELL DRILLING
EXPLOSIVES
PLASTICS
TANNING

BREAKFAST FOODS



FARM FEEDS



DISTILLERIES



This huge and versatile crop finds important uses in everything from steel to paint to antibiotics, yet 85 per cent never leaves the farm

By **DONALD C. SPAULDING**

SOMETIME this month a new core and mold binder for the foundry trade will be announced. It is expected to increase production of metal castings up to 25 per cent at no additional cost.

Within a short time sufferers from tuberculosis, arthritis, arteriosclerosis and certain heart ailments may be receiving treatment from a number of entirely new drugs.

Soon, too, stronger adhesives and brighter, harder household paints will appear on the market.

Textile and paper industry executives already are looking forward to the first shipments—expected this month—of a chemical product designed to cut their costs of manufacture through drastic reduction of breakage and faults.

The significant fact behind these brief announcements is not that they are unexpected or even unusual in this age of constant development of new products, but that a single farm crop—corn—will be largely responsible for all of them.

These are just a few, but in many ways typical, examples of the behind-the-scenes contribution of our most valuable agricultural crop to scores of our most valuable industries, a contribution measured over the years in terms of millions of dollars in lower costs, increased production efficiency and in an ever spiraling standard of living.

Corn is our largest and oldest crop—besides being the most valuable. Next to the air we breathe, probably no other substance is so intimately connected with our daily living from the cradle to the grave.

The Corn Industries Research Foundation points out that every state in the United States grows corn; more land is planted with corn than with any other

seed; one of every four acres in crops grows corn; its acreage constitutes one twelfth of all farmland in the country.

Our corn belt, which stretches from Michigan and Ohio to eastern Kansas and Nebraska, and from Minnesota and Wisconsin to Kentucky and the southern counties of Missouri, comprises about one half of one per cent of the land area of the earth. Yet this section alone produces 45 per cent of the world's corn and the United States as a whole, about 60 per cent, according to the Foundation.

At the northern rim of the belt, Minnesota's corn crop, amounting to almost 270,000,000 bushels, is of much greater dollar value than the combined wheat, oats, rye and barley harvests in that state; corn is worth several times the dry bean crop in Michigan; in Georgia, more than the harvest of peaches and peanuts, and in Vermont more than the total production of maple syrup and sugar.

The cash value of our annual corn crop in recent years has averaged about \$4,500,000,000. This year it is expected at least to equal that figure—which is \$1,500,000,000 more than the value of all our cotton and cottonseed harvest; more than double the value of all our wheat harvest; nearly twice the value of all coal—bituminous and anthracite—mined in the United States in one year.

Let's look back for a moment at the new products expected to put in an appearance during the next few weeks:

The Corn Products Refining Company will announce the new carbohydrate derivative mold and core binder; officials there point out that use of starches to hold the sand firmly together and produce a flawless

casting has been common for years. But if your business uses iron, steel, brass or aluminum castings in any form—industries worth billions of dollars do—and you would like to boost production as much as 25 per cent without adding to your costs, you'll take notice of this new product.

Then, too, "glucuronolactone" can't by any stretch of the imagination be called a household by-word, yet in the not-too-distant future, tuberculosis and arthritis sufferers may get vitally needed treatment from this corn by-product.

New applications for inositol, a vitamin in the B-complex series, are currently under study. A description of its properties probably would not compel as much interest as a sketch of the latest 1955 automobile except to one suffering from arteriosclerosis or certain heart ailments, where inositol gives promise of aid in treatment by controlling formation of fatty substances in the blood stream.

Within a short time—large pilot plant operations are now under way—methyl glucosides will help produce household and commercial paints of high gloss, lasting color and a hard surface.

Carload shipments of a new dextrin compound, destined practically to eliminate breakage and faults in the paper and textile industries, will begin this month.

Important carbohydrate building blocks in the manufacture of adhesives are being put through pilot plant paces now. The end result will be tough adhesives which won't gum up or dry out when applied to paper, wood, glass or metal—or any combination of these.

How much corn does all this take?

Although about 81,000,000 acres are planted in corn this year, with an expected yield of about 3,000,000,000 bushels, from 80 to 85 per cent of the harvest will remain on the farms where it is grown—to feed millions of head of cattle and hogs and thousands of flocks of poultry.

For the 15 per cent marketed, farmers receive cash income of a little more than \$1,000,000,000—about one fifth the value of the entire crop—from the corn processors.

This 15 per cent—or 450,000,000 bushels—is split four ways, with five per cent purchased by the dry millers, four per cent each by the mixed-feed manufacturers and the corn refiners (or "wet millers") and roughly two per cent by the distillers and fermenters.

From this 15 per cent come all the new products as well as the old.

Direct food uses account for most of the dry milling production, turning up in the pantry or on the breakfast table in the form of corn meal, hominy grits, corn flakes and a multitude of other breakfast cereals. Their product value, however, does not include packaged desserts, gelatins, or corn for eating, the last being worth about \$40,000,000 annually.

The principal nonfood uses of dry milling by-products are as core binders and as adhesives.

Mixed-feed manufacturers are the largest industrial users of shelled corn. Their production has skyrocketed from about 13,000,000 tons in 1939 to nearly 34,000,000 tons this year. The increase is generally explained this way:

In populous areas, where little grain is grown, production of meat, milk and eggs depends largely on manufactured feed for livestock and poultry. Thus, 80 per cent of all feed used east of the Pennsylvania-Ohio line and north of the Virginia-North Carolina boundary is manufactured feed. That's exclusive of pasture and roughage.

In the six New England states 95 per cent of feed used (exclusive of roughage) is produced in mixed-feed plants. Some areas of the Pacific Coast and the Southeast follow similar feeding practices, although to a lesser degree.

Mixed-feed makers supply two thirds of all poultry feed and about 25 per cent of all dairy feeds. They supply feed also to beef-cattle and hog raisers, but in much smaller amounts since the latter are fed primarily on whole corn.

While distillers and fermenters use less corn than the other segments of the industry, their contribution to the national economy is nonetheless important—and their production of vitally needed industrial alcohols was of tremendous help in winning World War II.

The main products of the distillers and fermenters are ethyl and butyl alcohols, whisky and acetone. Beer and ale makers use products of both wet and dry milling industries, but little corn as grain.

Ethyl alcohol is one of the most important accessory chemicals in a score of industries today. It's used in perfumes, synthetic rubber, embalming fluid, explosives, antifreeze, insecticides and medicines. Annual production of ethyl alcohol has grown from less than 1,000,000 proof gallons in 1906 to a peak of 700,000,000 in World War II and currently has settled down to an average of 475,000,000 gallons annually. Distillers' and fermenters' use of corn varies widely from year to year, from 10,000,000 to 56,000,000 bushels, with by-products including feed, vitamin and protein concentrates, dried yeast, corn oil and various acids and alcohols which go on to further unique industrial uses.

The corn refiners differ in their method of operation from the dry millers or the mixed-feed manufacturers. Where the latter have plants wherever corn is grown, the refiners have a few large plants, concentrated mostly in the corn belt—with the principal exception of Corn Products Refining Company's new automatic mill at Corpus Christi, Texas, where sorghum grain is processed.

The Foundation reports that 13 plants operated by the 11 firms comprising the corn refining industry are capable of grinding 250 carloads of shelled corn every day and of shipping out a like amount of finished products.

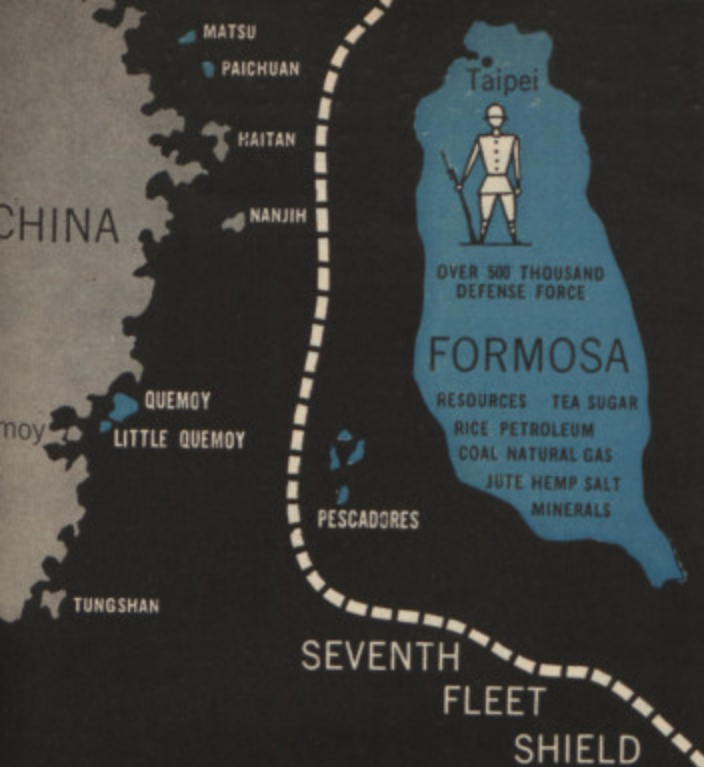
While a considerable amount of complicated and expensive machinery is required in the operation (and vast quantities of water and fuel)—together with many chemists, engineers and other technicians—efficiency has been developed to the point where five man-hours of direct labor produce a ton of finished products.

Corn refiners process an annual average of 125,000,000 bushels of the grain, turning out starch, dextrin, syrup, sugars, feed and oil. This amounts to about 420,000 bushels each day—which costs the refiners in the neighborhood of \$200,000,000 in a year's time, most of which goes to the farmers who grow the grain.

The refiners pay more than \$70,000,000 annually for their fuel, water and electricity bills, chemicals, machinery and parts; their payroll, including about 13,000 men and women, comes to some \$50,000,000, while their railroad freight bill averages \$50,000,000. With these outlays, the industry manufactured products in 1953 with a factory value of nearly \$450,000,000.

A brief look at the incredible volume of these products—and, remember, this segment of the industry uses only four per cent of the corn crop—dramatically points up the intimate integration of the corn industry and our national economy, as well as our national security, and illustrates

(Continued on page 98)



Generalissimo Chiang Kai-shek and his army of 500,000 men keep Formosa and a few small islands in the Formosa Strait (above, in green) out of the hands of the Red Chinese on the mainland. Formosa, within easy flying distance of Japan, the Philippines and Okinawa, (right) is major link in the U. S. defense chain in the Far East



HERE'S WHAT WE GUARD IN FORMOSA

By SAM STAVISKY

What is Formosa?

Formosa is a semitropical island about twice the size of New Jersey lying 90 miles off the China coast. A spine-like mountain range divides the rugged, forest-clad eastern half from the alluvial, luxuriant western half. Portuguese sailors, sighting the precipitous eastern cliffs of the green isle named it Formosa (beautiful). The Chinese, whose first approach was to the island's more hospitable dune-decorated western edge, called it Taiwan (terraced bay).

Today the island produces rice, sugar, tea, pineapples, jute, hemp, dye-woods, coal, petroleum, natural gas, sulphur, salt and gold.

Who are the people of Formosa?

Chinese colonists first began to settle Formosa in the Fourteenth Century. Efforts by the Japanese, Spanish, and Dutch to move in were short-lived. Three hundred years later, Koxinga, a general loyal to the toppled Ming dynasty, sailed his army to Formosa, and took it over, rather than surrender to the Manchus. Ultimately, the Manchus got control and, despite brief Japanese and French incursions, held on to Formosa until 1895. Then, defeated in war, China ceded Formosa to Japan. The Allies restored the island to China at the end of World War II.

Today, Formosa's approximately 8,000,000 popula-



BOB KLEIN—BLACK STAR

Most of the 8,000,000 people on Formosa are descendants of Chinese from the mainland, who work in the island's fields and mines. Formosan Chinese women frequently wear cloths over their heads or faces for protection against the weather



WIDE WORLD

Chiang Kai-shek and Mme. Chiang with President Roosevelt and Prime Minister Churchill at the 1943 conference in Cairo where China was promised the return of Formosa upon Japan's defeat

tion is made up chiefly of Formosan Chinese, that is, descendants of mainland strains. There are also about 150,000 aboriginal tribesmen (including head-hunters), some few thousand of the 300,000 Japanese who for 50 years ruled the island, and about 1,000,000 anti-communist Chinese who fled the mainland in the past five years.

The Formosan Chinese are an independent-minded, high-spirited people. They successively—and at times successfully—rebelled against governors imposed on them by the Mings, Manchus, Japanese and—in 1947—Nationalist China.

Who is fighting over Formosa?

The battle over Formosa is between anti-communist Nationalist China (National Government of the Republic of China), headed by Generalissimo Chiang Kai-shek, and Red China (Chinese People's Republic), run by Mao Tse-tung.

The battle is part of the 40 year struggle between the communists and anti-communists for control of China following the overthrow of the Manchus and the establishment of a republic by Sun Yat-sen in 1912.

How did Chiang Kai-shek attain power?

On Dr. Sun's death in 1925, Chiang Kai-shek seized power. Though he himself had received early training in Moscow, he swung into the anti-communist wing, and purged the controlling Nationalist Party (Kuo-mintang) of the Reds.

Chiang Kai-shek solidified his position by eliminating the autonomous war lords and by 1937, when the Japanese invaded Manchuria, had the situation fairly well under control except for the small but tough Red remnant which had taken refuge around Yenan.

How did the Reds attain power?

Although presumably united in fighting Japanese, the Nationalist and communist armies spent considerable time fighting each other as well. After the attack on Pearl Harbor in December, 1941, brought the United States into World War II, the rival Chinese armies, and especially the Reds, jockeyed for position assuming that American military and industrial might would sooner or later overwhelm the Japanese.

Open warfare between communist and anti-communist China broke out intermittently after V-J Day, and by 1947 the struggle was on again in full force. In 1948, Manchuria fell to the Reds, and by the end of 1949, the entire mainland was in communist hands.

The Generalissimo, like Koxinga 300 years before, took refuge on Formosa. Like Koxinga, he has been harassing the mainland from Formosa—and a string of lesser, smaller islands up and down the China coast—ever since. Communist China, on the other hand, has repeatedly announced its intention to complete its rule over China with the conquest of Formosa.

The United States joined in the battle of Formosa by interposing the Seventh Fleet between the island and the mainland in June, 1950.

What steps led the U. S. into Formosa?

Open Door policy: Since 1844 the United States has maintained a friendly policy toward China. By 1900 this country made clear that it stood for equality of commercial opportunity by all nations in China (Open Door policy); for respect for the administrative and territorial integrity of China; and for opposition to any foreign domination of China.

This policy prevented Japan's attempt to swallow China whole through diplomatic means in 1915, but failed to halt smaller bites by Japan before the open invasion of 1937.

Aid against aggression: Out of sympathy for a courageous victim of aggression, the United States quickly began to extend to Generalissimo Chiang Kai-shek's government currency stabilization aid and Export-Import Bank credits to fight the invasion.

In 1941, Uncle Sam began to send lend-lease shipments into China and Gen. Claire Chennault was given leave to set up the "Flying Tigers," an American group of volunteer fighter pilots manning former American warplanes.

World War II: After Pearl Harbor our aid to China, military and economic, increased sharply, and was continued after V-J Day to help buttress Generalissimo Chiang in his civil war with the communists. By March, 1949, American assistance to China totalled more than \$3,500,000,000.

Meanwhile, President Roosevelt and later President Truman were determined to build up a friendly China as the dominant power in the Far East at the expense of Japan. To this end, over Prime Minister Churchill's reluctance, President Roosevelt declared China to be a major power member of the Allies by holding a conference with Churchill and Chiang at Cairo in Decem-

ber, 1943. The resultant Cairo Declaration pledged, among other things, that all territories "stolen" by Japan from China—including Formosa—would be returned to China.

A year and a half later—in July, 1945—the three powers issued the Potsdam Proclamation which, in effect, made acceptance of the Cairo Declaration one of the "unconditional surrender" terms to Japan. Russia subsequently subscribed to the Potsdam statement. Japan accepted the terms on Sept. 2, 1945. Seven weeks later the Japanese on Formosa formally surrendered to a Chinese force hastily rushed to the island by the U. S. Navy. China was recognized as a major power by being assigned a permanent seat in the Security Council of the United Nations, along with the United States, Great Britain, France, and Russia. **Postwar policy:** After the war the United States undertook a twofold role in China. We tried to reconcile the warring Nationalists and communists, and at the same time sought to strengthen the democratic forces under Chiang. Military aid to the Nationalist government was continued.

By 1948, however, the communists had Chiang on the run, and by 1949, the military outlook for the Nationalist Government appeared hopeless. The Administration, criticized for having failed to give more aid than it did to the Nationalists, insisted that Chiang's armies did not lose a single battle in crucial 1948 because of the lack of arms.

Late in 1949 our government helped carry what was left of Chiang's forces to Formosa and continued some economic aid. But the Administration felt that Red seizure of Formosa was but a matter of weeks. In December, 1949, a State Department confidential

memo alerted key personnel that the loss of Formosa was "widely anticipated," and that State Department officials were to try to counter "false impressions" that Formosa was of any great military significance.

Meanwhile, critics of the government's China policy—including former President Herbert Hoover, Sen. William F. Knowland of California, and the late Sen. Robert Taft—demanded that the United States not only refuse to recognize the communist government in China but also take positive steps to prevent the fall of Formosa to the Reds—even to using our Navy for that purpose.

However, in January, 1950, President Truman declared that, in conformity with a new UN resolution on China, the United States would no longer give military aid or advice to the Chinese forces on Formosa, although economic assistance under then existing legislation would be continued.

President Truman's public policy statement also proclaimed that the United States had no desire to establish military bases on Formosa at that time.

For the next six months, the United States was in a political uproar over the Administration's stand-aside policy relative to Formosa.

Policy since Korea: Then, on June 25, 1950, communist North Korea invaded the anti-communist Republic of (South) Korea. Two days later President Truman ordered American forces to throw back the Korean invasion. At the same time he directed the Seventh Fleet "to prevent any attack on Formosa," simultaneously calling on Chiang to cease all air and sea operations against the mainland.

On that fateful June 27, 1950, Uncle Sam not only got into the Korean war, (Continued on page 92)

American military advisers have trained elements of Chiang's army. The U. S. also has supplied arms





H. ARMSTRONG ROBERTS

HOW'S

AN AUTHORITATIVE REPORT BY THE STAFF OF THE CHAMBER OF COMMERCE OF THE UNITED STATES

AGRICULTURE

Taking the farm business as a whole, the 1954 gross income is expected to be down only six per cent from the 1951 high. This is due in part to the increase in quantities marketed.

But a breakdown of farm costs throws some interesting light on the business side of farming.

Family living cost rates are this year about two per cent above 1951.

The cost of items used in production taken together are down two per cent. That part of production costs represented by commodities is down seven per cent in price.

But nearly half of the production commodity items are "inter-farm," sold by one group of farmers to another. Feeds, seeds and livestock taken together have declined to the point where their cost rates are down 17 per cent from 1951.

Prices of the other commodities, bought generally off the farm, are up; building and fencing materials one per cent, fertilizer two per cent, farm supplies and motor supplies four per cent, while motor vehicles and farm machinery are up about five per cent.

The stiffest rises in farm production cost rates have been in the "services" category. Farm wage rates are up nine per cent, taxes have risen by 24 per cent, and "interest payable per acre" is up 30 per cent from 1951.

When these changes are balanced

out, we find that farm production expenses in 1954 will be almost exactly equal to the 1951 figure.

CONSTRUCTION

The most important feature, marketwise, of the 1954 housing act is the new formula which authorizes insurance of loans on new construction of 95 per cent of the first \$9,000 of value and 75 per cent of additional value up to a top loan of \$20,000.

The new schedule avoids the artificial incentive to build for a single section of the market where down payment requirements were widely different from the rest. It also reduces the cash investment required in the part of the market where demand has been most active.

The act also widens loan-to-value ratios for existing structures. It now will be permissible to insure a loan on an existing house up to 90 per cent of the first \$9,000 of value, with 75 per cent of value above \$9,000 to a maximum mortgage of \$20,000.

Since new-house sales often depend upon finding a buyer for the purchaser's present house, these provisions may create a real trade-in market in housing.

DISTRIBUTION

New key phrase in distribution is "team selling." In leading stores today, teams of experts are giving a combined sales presentation at coun-

ters, at special demonstration setups, even in auditoriums.

All members of departments or sales staffs are being encouraged to operate as a team instead of as experts exclusively concerned with buying, merchandising, display or advertising.

Stimulating this development is the high cost of individual contact and the difficulty of making one sales person familiar with all features of a large selection of merchandise.

This and similar new techniques are enabling alert distributors to increase their business despite highly competitive conditions.

CREDIT & FINANCE

Commerce Department reports show that personal income is running at the annual rate of \$285,000,000,000 for the first eight months of 1954. This is slightly less than the all time high of \$285,500,000,000 reached in 1953 for the same period. At the same time the total volume of savings for the first half of the year exceeded the 1953 volume.

These seemingly contradictory trends in personal income and personal savings are causing considerable speculation.

Conservative buying under the threat of mild recession has contributed to the increased saving but retail sales have recently shown an upward trend which may indicate a savings level high enough to allay individual fears and provide a needed stimulant to the economy.

Tax cuts and unemployment compensation payments have added significantly to disposable personal income which has increased about one per cent over the annual rate level of last year despite a slight increase in unemployment and decrease in overtime pay.

FOREIGN TRADE

The Foreign Operations Administration, seeking to stimulate private investments abroad under the Mutual Security program, is trying to provide more information so that investors may know what opportunities are available, and what the U. S. government will do to help them.

The FOA's Office of Trade, Investment and Monetary Affairs periodi-

BUSINESS? a look ahead

cally issues "Selected Investment Opportunities." It recently described a project in the Belgian Congo this way: "17,000,000 kilowatt power plant on Congo River is planned. The Aluminium Company of Canada is interested in this project, also Belgian and probably U. K. financial interests."

Another project, for cattle raising in French Equatorial Africa, reads: "... good opportunities for cattle raising on a large scale in the Tchad district and near Fort Lamy. Fences will have to be built and wells drilled."

The Mutual Security legislation provides that our government may guarantee U. S. citizens, firms, or corporations against loss from currency inconvertibility, confiscation, or expropriation in connection with new investment abroad on projects approved by the FOA director and the countries concerned.

GOVERNMENT SPENDING

With word having gone out that the budget total for 1956 is to be below 1955, government fiscal men are asking where to cut.

Spending for 1955 is now figured at \$63,968,000,000—about \$3,600,000,000 less than 1954. The decrease results almost entirely from cuts in defense and other national security items. But expenditures in most non-security categories are up.

Much of the increase is due to existing law. For instance, veterans' benefits are set at a higher figure than a year ago, because more veterans have become eligible for benefits. Agricultural price support payments likewise are up. Such automatic increases give budget planners the problem how to cut down enough to offset them.

Many spending programs, including some sacred cows, will be getting the most careful scrutiny in years.

LABOR RELATIONS

Labor law issues probably will be high on the agenda of the next Congress. President Eisenhower put Taft-Hartley on the list when he told the AFL convention that he regrets that the last session did not change the "union-busting" provision about economic strikers or improve the provision requiring noncommunist

affidavits from union leaders. He indicated that these two might be put in a separate package, if Taft-Hartley changes should become stalemated again.

The AFL is disturbed over the recent change in the Walsh-Healey Act which permits court review. The Federation wants the Secretary of Labor to make wage determinations without court review in cases where businessmen supply the government with goods and services.

Most businessmen's groups feel that court review is only one of the needed reforms in the Walsh-Healey Act. They particularly insist that the Secretary of Labor should adhere strictly to the provision that wage determinations will be made in the "locality" and not, as in the past, on a nationwide basis.

The AFL also plans to oppose the right-to-work laws which many of the 40 state legislatures meeting in 1955 will take up.

NATURAL RESOURCES

The year ahead promises increased prosperity for lumber, natural gas, light metals, iron and steel, copper, and pulp and paper.

Somewhat less optimistic is the outlook for petroleum, coal, lead and zinc. These industries face special problems. Petroleum is bothered by high rate of crude oil imports; coal production has dropped drastically; zinc and lead from domestic mines must compete against foreign ores.

Net proved reserves of natural gas continue to increase despite record production, as major new fields are brought in along the Gulf Coast and the San Juan Basin of New Mexico.

New iron ore deposits are coming into production to meet increasing demand for steel. Annual steel production has grown from 81,800,000 tons in 1939 to about 124,000,000 this year. U. S. companies are working deposits in Liberia, Venezuela, and Canada.

Plywood and lumber production for 1954 is approaching a record owing to new construction. New products are being developed from sawmill leftovers.

The forest conservation programs have made possible a sufficient volume of raw material to produce record amounts of pulp and paper. Chemistry and research are also

adding to forest yields. The demand curve for forest products is expected nearly to parallel the curve of population increase.

TAXATION

The Renegotiation Board has recently issued a series of amendments to the already voluminous regulations under which the Renegotiation Act is administered. These amendments are designed to bring existing regulations into line with changes Congress made in extending this Act for another year.

At the same time there are growing signs that the government departments which must put the Act into effect are losing enthusiasm for the task. Since the hearings on the most recent extension a number of officials have been quoted privately as lacking interest.

There is no outright opposition and it is probable there will be none. In their opinion, however, repeated extensions, some retroactive, have created complicated operating and administrative problems which might be eliminated in peacetime.

TRANSPORTATION

The shipbuilding industry and American-flag shipping in foreign commerce soon may begin to benefit from recent legislation. In the first six months of this year both were at a low ebb.

Until August, shipyards had virtually no new orders for merchant ships in more than a year. That month, a large tanker was placed on the books of one yard. Pump-priming appropriations of \$175,000,000 authorized by the 83rd Congress, however, are expected to encourage shipbuilding companies to spend an additional \$225,000,000. Though by no means a guarantee of a healthy situation in the shipyards, this is a badly needed boost.

This year is the postwar low in American-flag shipping activity. Passage by Congress of a bill reserving 50 per cent of cargoes financed by the government to American vessels is a long step toward revival. Government-controlled shipments create almost half of our total exports and foreign-flag vessels were making significant inroads into this business.

Coal's Problem: GRIM PRESENT,

COAL'S long-range outlook—looking ahead 20 years—is bright. Fuel experts and economists agree output will more than double.

But the present is dark. Coal is in real trouble.

Production of bituminous coal in this year of the jet won't quite come up to the 397,000,000 tons mined in the horse-and-buggy days of 1907.

Output of anthracite coal last year was the lowest since 1886. Production this year will be even less.

Fewer miners are employed in bituminous pits than at any time since the Gay Nineties.

In anthracite mines, employment is now the lowest since large-scale mining began.

About 150,000 miners are totally unemployed while those working

average only three days a week. While coal—hard and soft together—provided almost 90 per cent of the country's energy supply at the turn of the century, it provides little more than 30 per cent today. The country's total energy supply, including gasoline consumed by automobiles and trucks, has tripled in the past half century, but the amount coming from coal has remained about the same.

Some 2,400 bituminous mines have closed in the past three years.

The average price of bituminous coal at the mine is below the 1948 level while average freight charges are up about 22 per cent.

Coal operators pay high wages of about \$2.50 an hour and 40 cents a ton into the union welfare fund com-

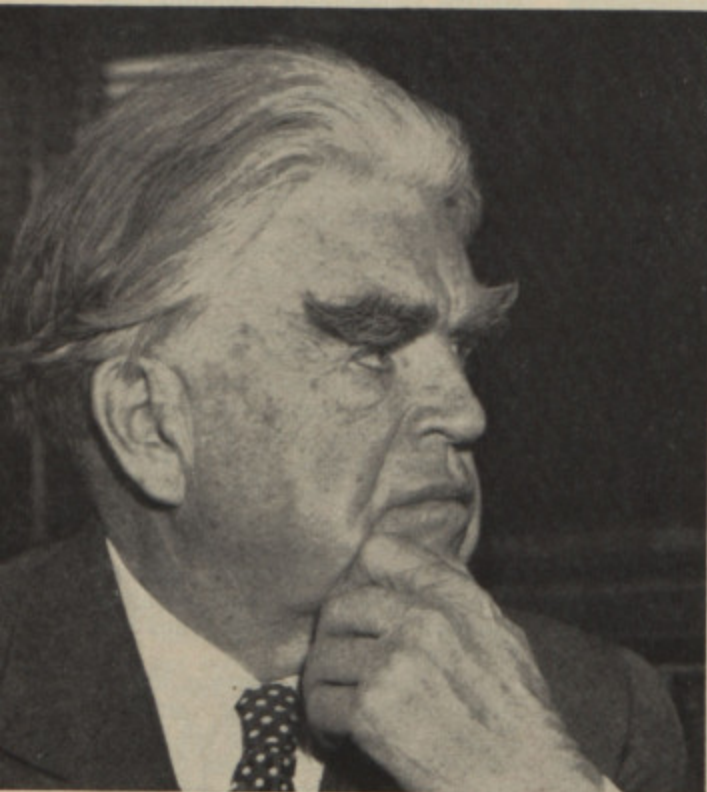
pared with average factory pay of about \$1.80 an hour.

Annual consumption of bituminous coal by the railroads has dropped from 132,000,000 tons to a bare 20,000,000 tons in the past decade. Other industries, with the notable exception of electric power utilities, also have turned to other fuels and cut back coal consumption tens of millions of tons.

A substantial segment of the coal industry is operating at a loss.

This depressing situation in coal has stirred up cries of alarm from some who feel that—aside from the human and financial aspects of the situation—the coal industry must be kept alive and strong to meet the needs both of defense and the anticipated increased civilian demands in

UMW'S VIEWPOINT



JOHN L. LEWIS, *President,*
United Mine Workers of America

Mr. Lewis, what do you think needs to be done to put the coal industry back on its feet?

MR. LEWIS: We need a national fuels policy that would permit coal to participate in our economy to the extent necessary to protect investments in coal. This would keep the industry alive and available for defense requirements and to meet anticipated increased demand in the future.

How would a national fuels policy work?

MR. LEWIS: The policy would do several things. First, it would determine the lines of demarcation for the uses of the liquid and solid fuels of this country and to what degree the public interest and the safety of the nation is being protected by the policies we are pursuing now. In the area of making heat or generating power, the policy would be one that would not impair the billions of dollars of fixed investment in the coal industry nor strike down the great producing machine we have wrought in America.

In addition a national fuels policy would closely regulate the imports of residual oil which have made such damaging inroads into areas once served by coal and would restore government-sponsored coal research which has been reduced in recent years. It also would encourage the exporting of larger quantities of U. S. coal into the world market.

Why should coal be given special treatment in this way?

MR. LEWIS: I don't agree that it would be getting special treatment, since a fuels policy would, in fact, cover fuels other than coal. But if you want to know why the United Mine Workers consider a fuels policy essential I can answer the question in this way: Because our economy is based on coal (Continued on page 48)

HOPEFUL FUTURE

the long-range future. It has provoked government concern at both the state and national levels.

A newly organized Governors' Fuel Conference has asked Congress to study our fuel resources and their importance to the national defense. Governors in major coal producing states will meet in Washington in January with members of Congress from their states to discuss an overall legislative program that would help the struggling coal industry.

President Eisenhower last summer set up two committees to tackle aspects of the coal problem and asked for a report by Dec. 1.

He appointed the Interdepartmental Committee on the Soft Coal Industry to find to what extent conditions in the industry threaten the

strength and well-being of the nation, and to recommend a remedy.

The President observed that the bituminous coal industry is an important part of our defense mobilization base and that there is danger of a serious loss in our capacity to produce coal in the event of a major emergency in the future.

He also created the Cabinet Committee on Energy Supplies and Resources Policy to study the requirements and supplies of the major sources of energy, including coal, petroleum and natural gas.

Chairman of both committees is Arthur S. Flemming, director of the Office of Defense Mobilization, indicating that the studies and recommendations of the committees will be closely coordinated. Closed-door

sessions with industry spokesmen were begun in August.

Meanwhile the industry itself is taking inventory of the growing crisis. The Bituminous Coal Operators Association discussed the situation at a meeting last month. The Southern Coal Producers Association, organized like B.C.O.A. primarily for collective bargaining purposes, and the National Coal Association, a trade group representing operators producing 75 per cent of the commercial soft-coal tonnage, have the problem high on their agenda at meetings this month.

To give an idea of what leaders in the industry think should be done about the coal problem, NATION'S BUSINESS brings you these exclusive interviews.

INDUSTRY'S VIEWPOINT

Mr. Pickett, what do you think needs to be done to put the coal industry back on its feet?

MR. PICKETT: Frankly, coal is not in a good economic position today. To correct this condition, coal must be given an opportunity to operate in a competitive fuels market on a fair basis, without restrictions or restraints imposed by government or anyone else, and without being handicapped by advantages which in some instances in the past were afforded other industries by certain government policies. Something has got to be done.

What do you want done?

MR. PICKETT: The coal industry wants to prosper. It wants to prosper unrestrained by government interference and unimpaired by policies which favor our competitors.

We have suffered from both in the past.

The government should restrict the import of residual oil and facilitate the export of our coal into western Europe; it should give the coal industry a depletion allowance that is fair compared to our major competitor; it should correct the unfairness in freight rates; it should reverse the Phillips decision, aim for more realistic gas prices and institute sound conservation practices for gas as a valuable natural resource.

How has the government hurt coal?

MR. PICKETT: Well, there is the increased cost that resulted when the government, during seizure of the mines in 1946, created the union's welfare and pension fund structure.

This now costs the coal operators who are under the United Mine Workers' contract 40 cents on every ton of coal mined, or an average of about \$3 a day per miner. This is the result of gov-

(Continued on page 44)

EDWARD BURKS



TOM PICKETT, *Executive Vice President, National Coal Association*

Looking IN or OUT



LOOKING IN through the Parallel-O-Plate Glass in a store window, you hardly know the glass is there, so perfect is its parallelism.



LOOKING OUT of a window wall of Parallel-O-Plate Glass, you see the scene as it actually *is*, in all its beauty. Parallelism is doubly important when windows are *Thermopane*®—the double-paned insulating glass.



or AT

New L·O·F Parallel-O-Plate Glass is Amazing!

**It's the finest plate glass ever made in America
...yet it costs no more than ordinary plate!**

Parallel-O-Plate is the *first* and *only* *twin-ground* plate glass made in America.

For 12 months, this L·O·F glass has been reserved solely for fine mirrors and military optical instruments.

Now it has been made available for *general* use.

It sets a whole new standard of performance for windows in stores, homes and offices.

New Libbey-Owens-Ford *twin-grinding* is the most advanced method of perfecting plate glass!

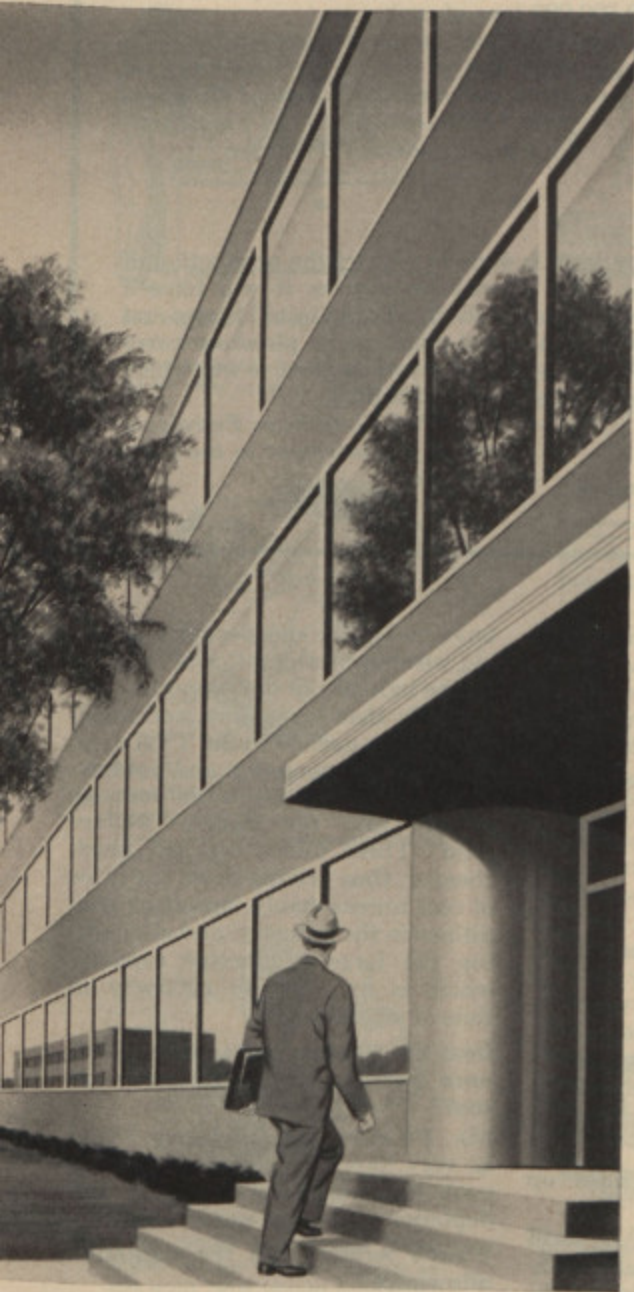
At L·O·F, a ribbon of plate glass 127" wide and a fifth of a mile long moves continuously through ingenious machines which grind both sides *simultaneously*!

What does this mean to you?

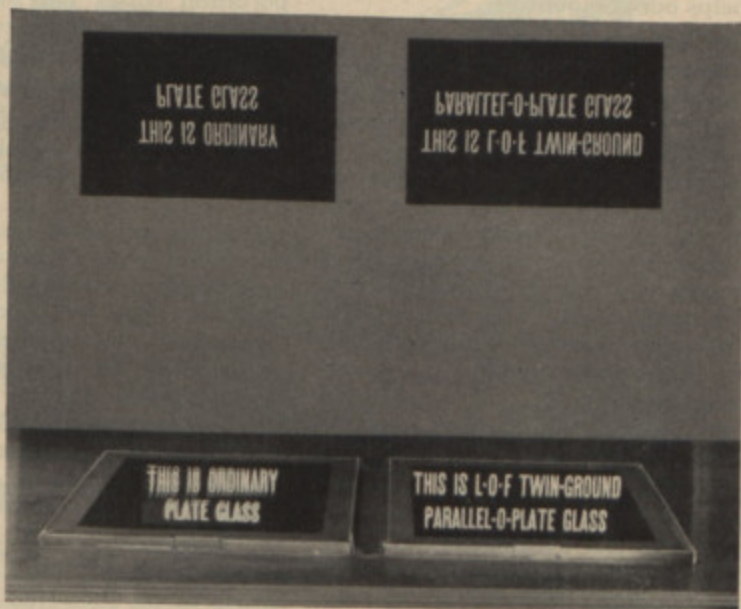
Most distortion in glass is caused by a *lack* of parallelism.

Twin-ground plate glass is the most perfectly parallel plate glass in the world!

Yet L·O·F Parallel-O-Plate costs *not one cent more*!



LOOKING AT windows of Parallel-O-Plate you see how important glass of true parallelism is to the architectural beauty of modern buildings.



LOOK AT THIS COMPARISON between the reflections of the upside-down signs in the mirror of conventional plate glass (left) and the mirror of Parallel-O-Plate (right).

Parallel-O-Plate Glass

The finest plate glass in America...made only by **LIBBEY·OWENS·FORD**
a Great Name in Glass

WHAT OIL MEN SAY

The suggestion for legislative restriction upon imports of heavy fuel oil is based on the assumption that importation of this oil is an important cause of declines in domestic coal production.

Such is not the case. Imports of heavy fuel into the United States in 1953 totalled 136,000,000 barrels. On a heat-content basis, this is equivalent to 32,500,000 tons of coal, or only seven per cent of the amount of coal produced that year.

The increase in the volume of heavy fuel imported in 1953 over 1952 was 8,000,000 barrels, equivalent to only 2,000,000 tons of coal. At the same time, production of soft coal in the United States declined 14,000,000 tons—but domestic consumption of soft coal rose 7,500,000 tons. Meanwhile, the total energy consumed in the country rose by the equivalent of 38,000,000 tons of coal.

If we compare 1947, the year of peak postwar coal consumption in the United States, with 1953, we find that soft coal consumption has dropped

117,000,000 tons. During the same period, imports of heavy fuel oil rose by the equivalent of only 19,500,000 tons of coal.

Coal can and does compete successfully on a price basis with heavy fuel oil in many places.

—From statement by Standard Oil Company (New Jersey) to the President's Interdepartmental Committee

* * *

If anything is done to restrict the production of fuel oil from Venezuelan sources it will have a direct affect on the ability of the United States and other anti-communist countries to plan and carry through any defensive or any aggressive war which may be inflicted on this country.

—From Shell Caribbean Petroleum Company's statement to the same committee

ernment seizure—government interference. Meanwhile, government helps our competitors.

In what way?

MR. PICKETT: Take fuel transportation lines—the Big Inch and Little Inch pipelines. The government built them, exercising the right of eminent domain to condemn private property, then sold them to oil and gas producers as a ready-made transportation medium at several million dollars less than the pipelines cost the government. The users of this and other distribution networks enjoy a monopoly market.

How is that?

MR. PICKETT: The Federal Power Commission grants certificates of public convenience and necessity which give gas distributors a monopoly. Also, gas is regulated and prices are kept at a low rate, making it in effect unfair competition. In the Phillips case last June, the Supreme Court extended FPC's regulatory powers to the supervision and regulation of production and gathering of gas that is transmitted in interstate commerce. Thus, FPC regulates all phases of gas distribution and holds the price down below its real value.

What about transportation of coal?

MR. PICKETT: Coal producers, coal miners and transporters of coal have a substantial stake in the cost of transporting coal—in the freight rates. Since 1948, freight revenue from coal has gone up about 60 cents a ton, while the cost of coal at the mine is below 1948. Much of what

we have saved in production costs has been absorbed by higher transportation costs. On top of rising freight costs we face unfair competition from imports of residual oil.

You mean the oil from Venezuela?

MR. PICKETT: Most of it is from Venezuela, and it is doing substantial injury to the coal industry, aided and encouraged by a government policy on reciprocal trade. A 1952 agreement with Venezuela cut in half the then existing duty on residual oil. The President—when he announced the agreement—admitted that the impact would be largely on coal. He was right. Residual oil has gone into tremendous areas formerly using coal.

Would putting the duty back up help?

MR. PICKETT: Not much. Any tariff within reasonable limits could be absorbed in the delivered price of the imported residual and the oil could still undercut coal in the competitive markets. What we really need is a limitation on the importation of residual oil. Federal legislation in that direction would give us the only real and permanent relief.

What should the limitation be?

MR. PICKETT: We think residual oil imports should be limited to about five per cent of the previous year's domestic consumption of residual. Incidentally, government purchasing policies haven't been any help, either.

How do you mean?

MR. PICKETT: TVA, for instance,

buys coal at the cheapest price possible, without consideration of its effect on the industry or our economy. The result is that many new and small mines have opened in the TVA area, most of them nonunion and not having to pay the 40 cents tonnage royalty into the miners' welfare fund. These mines can sell much cheaper, thus driving down the price of coal unreasonably, upsetting conditions in the industry, and eliminating the large productive capacity which is an absolute necessity in time of emergency.

Does the 40 cents represent a difference between profit and loss on coal?

MR. PICKETT: The industry would be very happy to come out with 40 cents profit on a ton of coal. A fair depletion allowance would also help.

What's wrong with the depletion allowance?

MR. PICKETT: The government's depletion allowance for natural resources favors the oil industry, as against coal. The oil industry is allowed a depletion allowance at a rate of 27½ per cent. The allowance in coal is only ten per cent, and was only five per cent until raised in 1951 after a long and hard fight by the coal industry.

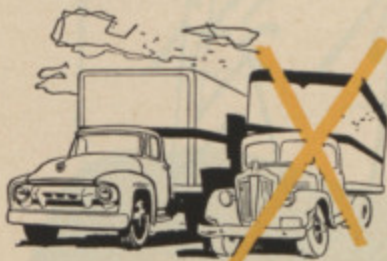
What about the export situation?

MR. PICKETT: I think first you should consider restrictions other countries place on United States coal imports. There are import restrictions, for example, in Germany, Belgium and Luxembourg. German users cannot buy our coal

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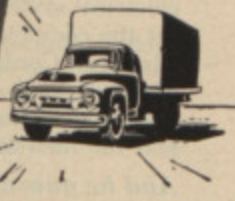


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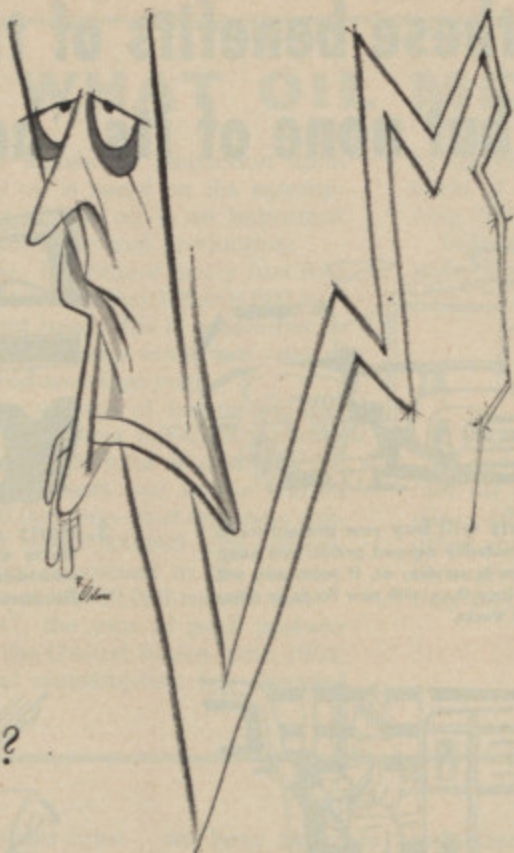
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1200 18th STREET, N. W., WASHINGTON, D. C.

direct from our suppliers. The coal must go through Holland, and then be transshipped to Germany. I think our government could get Germany to lift the restriction on direct coal imports. Our government could make it easier to get coal into western Europe. There is a substantial demand for coal in western Europe that we could supply if allowed to compete on a fair basis.

Could you undersell European coal?

MR. PICKETT: Considering quality, American coal can be laid down in western Europe cheaper than coal from Poland. We could shade European coal by about \$2 a ton if it were delivered in foreign-flag vessels. Actually, Germans are paying more for German-produced coal than they would have to pay for our coal if we were allowed to compete on a fair basis. Our coal costs the Germans about \$1 more a ton because of the Bonn restrictions against direct imports that require shipping through Holland.

What is being done to develop new markets for coal at home?

MR. PICKETT: The industry is spending a substantial amount on research—considering conditions in the industry—but it is not enough. Bituminous Coal Research, which is affiliated with our organization, is spending less than \$500,000 a year—all money contributed on a voluntary basis. Some individual producers and consumers also have substantial research programs. It should be understood, however, that basic research is but a long-term solution to our immediate problems. We have picked up some increased consumption in electric power production and in the chemical industries, but it doesn't make up the 100,000,000 tons we've lost on the railroads, due largely to dieselization.

How big should the coal industry be to maintain an adequate reserve capacity for defense?

MR. PICKETT: We don't have today even the productive capacity we had in 1941-42. Studies based on past experience and anticipated emergency requirements reveal that, in a sudden period of mobilization, a per-year production of 650,000,000 to 700,000,000 tons of bituminous coal would be needed. To establish this capacity requires an interim production level of at least 500,000,000 tons. At this time we are at least 100,000,000 tons below a "safe" level as far as coal's potential and the national security are concerned.

What has happened to the industry's productive capacity?

MR. PICKETT: Many things have happened. Much of the World War

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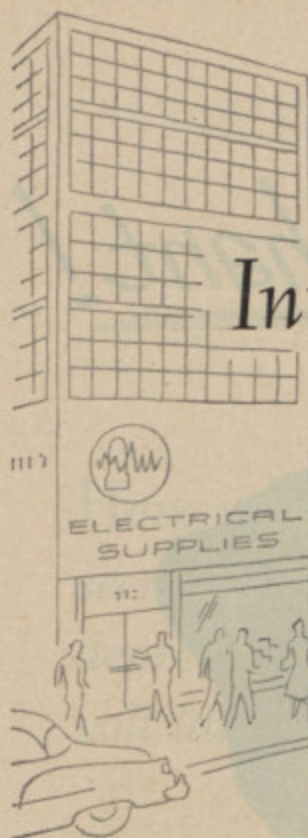
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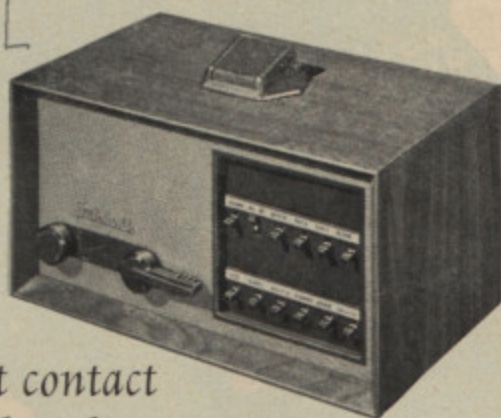
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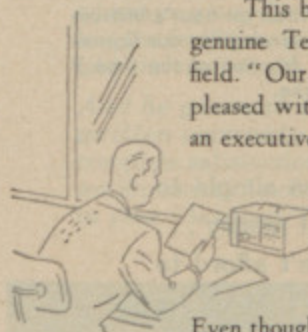


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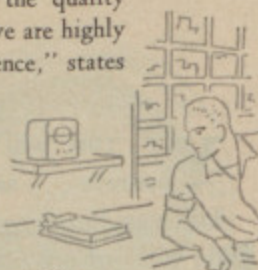
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If strip-mining operations are gone. The accelerated pace of mining easily mined coal has diminished. During the war we operated many high-cost mines, which we can't do under today's conditions. We have had to close many mines, and they become absolutely useless when they are not operated or maintained in good condition. Sometimes it costs more to open a closed mine than to open a new one.

Has the industry presented its problems and suggestions to the President's Interdepartmental Committee?

MR. PICKETT: Yes. We submitted information with respect to natural gas, residual oil, exports and government purchasing policies, and are preparing information on the transportation and research aspects of the problem.

Do you think there should be a national fuels policy?

MR. PICKETT: Depends on what you mean by a national fuels policy. We wouldn't want the government regulating production and all that it implies. If a national fuels policy is that, we don't want it. We don't want government dictation of the industry.

What is your objective in seeking government action at this time?

MR. PICKETT: To establish and maintain a productive base in peacetime that can be relied on in emergency or wartime for expansion to meet the increased demand for energy. Coal consumption should be expanded not only where it is now being used, but also to supply the demand other fuels are now filling, which fuels can or would be more readily diverted to fueling the war machine or which, because of conditions then present, would not be available at all.

UMW's Viewpoint

(Continued from page 40)

and will continue to be based on coal in the foreseeable future, and because oil and gas cannot meet our needs.

What about atomic energy?

MR. LEWIS: Atomic power is still in the realm of the theoretical and the prophetic. It will take billions of dollars in investments to make it generally usable. I want to emphasize this point: Power sources other than coal cannot sustain the world economy or our own economy. There are no assurances of delivery of these other fuels in time of war. Our national security has a stake in coal.

(Continued on page 52)

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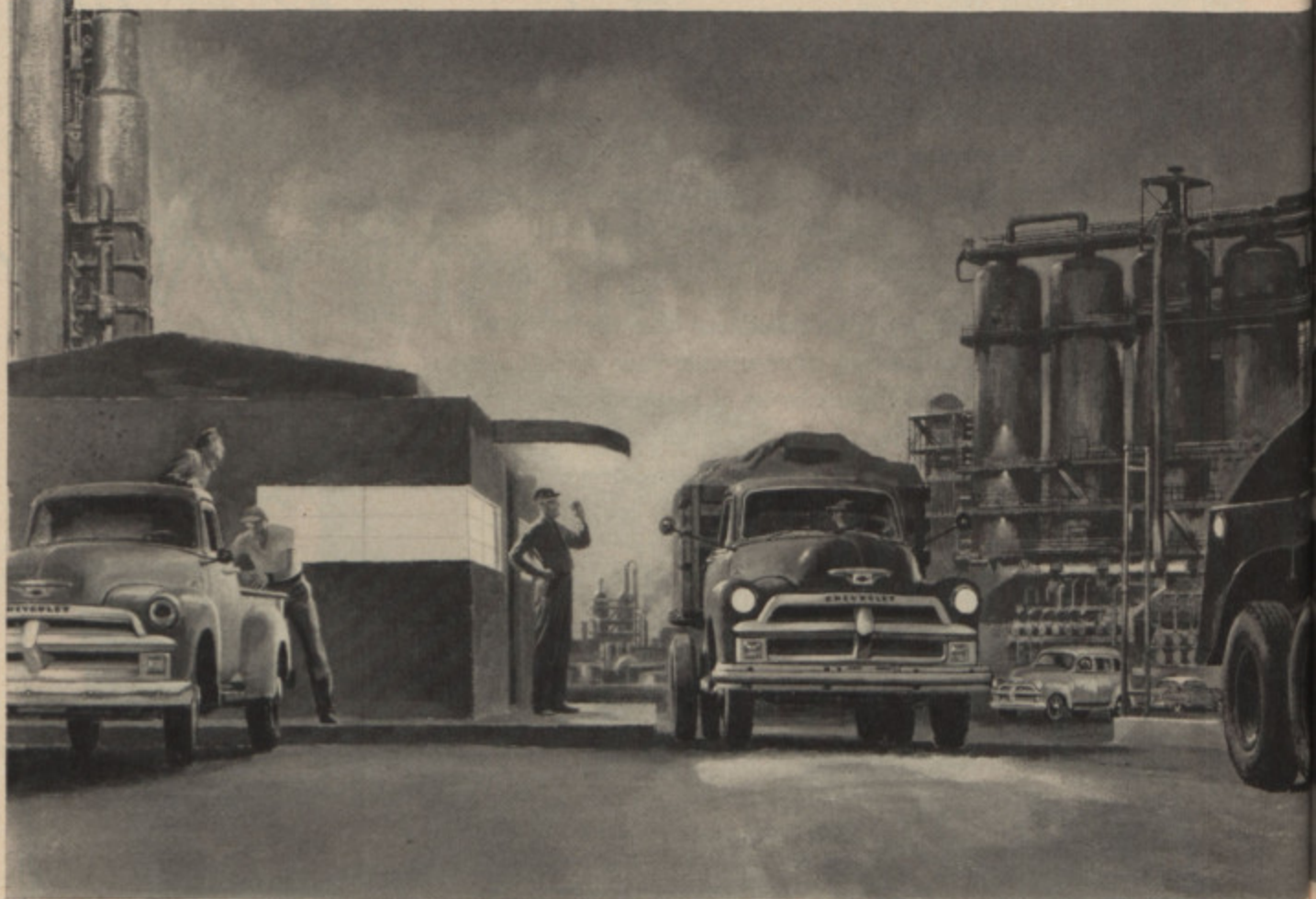
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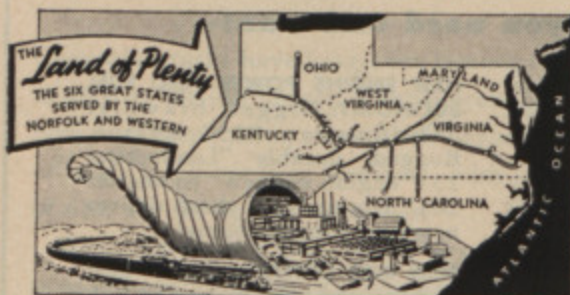
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What part did coal play in the war?

MR. LEWIS: I doubt if we could have won the last two wars if coal hadn't been able to meet the needs of war as well as consumer demand. During World War II we produced more tons of coal with 300,000 fewer miners, without subsidy, without rebates, without cost-plus contracts, than we did in World War I. This was the greatest example of free enterprise, of high productivity—highest productivity in the world. For example, coal is selling for less at the mine today than it did in 1948, although miners are earning \$5.25 more a day and 20 cents a ton more has been added to the miners' welfare fund.

Isn't mechanization responsible for most of the high productivity?

MR. LEWIS: Of course mechanization has a lot to do with it. The coal industry is modernized today. Had it not been for the United Mine Workers' insistence on mechanization and modernization, the coal industry would not have been able to modernize and, as a result, would now be in the same shape as the coal industry operating in England and Japan.

How does our output compare with that of other countries?

MR. LEWIS: Our miners produce an average of about eight tons a day, compared to one ton for the British miner. Our wages are five times the British wage. Production cost at the mine is one third that of the British. We have higher wages and lower cost because of high productivity.

Those who say that labor is pricing coal out of the market are either ignorant, ill-informed or malicious. No industry is as efficient as the coal industry.

Then why is the industry in trouble?

MR. LEWIS: Coal mining is suffering from excessive, destructive competition, and from lack of attention. We need stability. What we need most is a declaration of policy and machinery to implement it. We need rules to give coal an opportunity to live, to participate in the economy. The government should deal with the situation rationally.

What should the government do?

MR. LEWIS: For one thing, the government must decide the degree to which residual oil imports must be restricted; it should not let them harm the economy, causing loss of jobs, loss of buying power, loss of taxes. These losses are occurring now because of the importation of residual oil from Venezuela. Residual oil last year displaced 34,000,000 tons of coal and laid off 30,000 U. S. miners. This is unseemly and

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tiple aluminum baffle system cools both projector and film.

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savage competition. The government shouldn't let it happen.

What about residual oil from our own refineries?

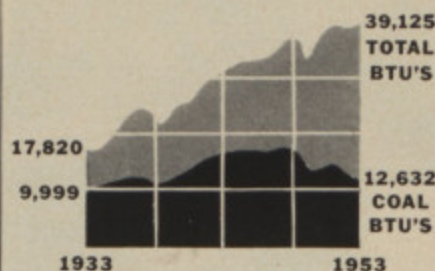
MR. LEWIS: That's all right. That's ours.

What else should be done?

MR. LEWIS: We should expand our foreign markets. Indifference, inertia or belligerent opposition in the government have stopped any increase in shipments. There is no reason why we can't increase exports.

How?

MR. LEWIS: Instead of giving Italy, France, Yugoslavia and the Low Countries our money—which they use to buy Polish and Czechoslovakian coal behind the Iron Curtain—we should ship them the coal, since it is coal they want. Japan needs metallurgical coal for its steel industry. There is no reason why she couldn't get it from the United States. But we give her money and she buys Manchurian coal from the Russians. Take Turkey. We're giv-



Coal loses ground in share of total energy (in trillions of B.T.U.'s)

ing her money to start costly, inefficient mines. We should give Turkey coal instead.

Why isn't this being done?

MR. LEWIS: We've been stopped by the indifferent, malignant opposition of people in the government. The world needs our coal, but apparently we don't believe in supplying it. It is almost criminal to assess the American taxpayers hundreds of millions of dollars and have these countries spend it behind the Iron Curtain, rather than give them coal if it is coal they want.

What about American markets for coal?

MR. LEWIS: Expansion in domestic markets is inevitable. Technological developments run in cycles. Take domestic heating, for instance. When national income is up, families can afford other fuels and thus get relief from coal and ashes. So can office buildings, hospitals and hotels. There has been a great displacement of coal; but it can be discounted. Fifty-five million tons of coal are still being used in domestic heating.

(Continued on page 57)



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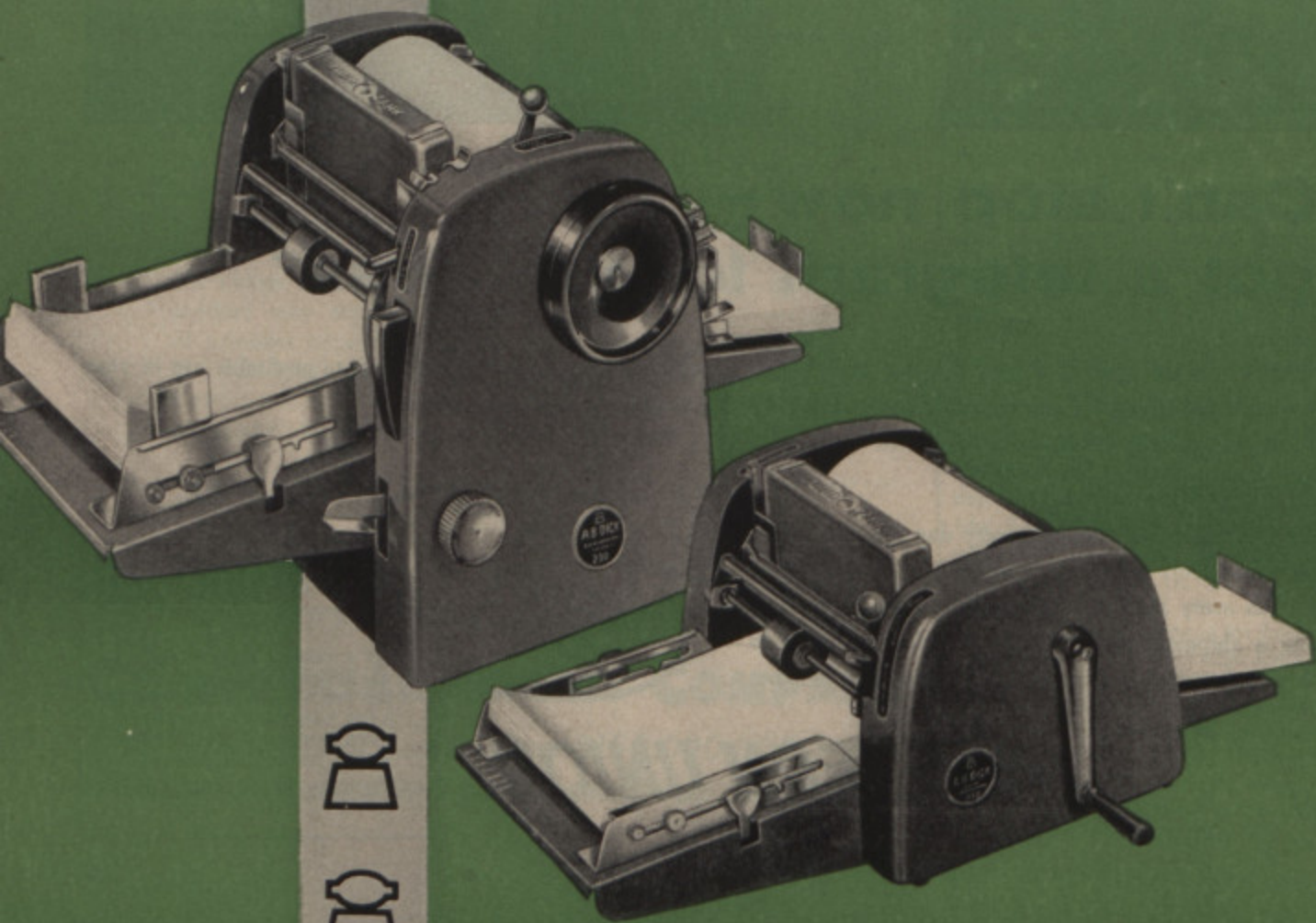
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What about dieselization?

MR. LEWIS: The diesel may be displaced by the coal gas turbine and electricity, although it will be a slow process. It may take as long to displace the diesel locomotive as it took diesels to displace the steam locomotive. The coal gas turbine locomotive will reduce cost to less than diesels.

What about electricity?

MR. LEWIS: Electricity is the coming heat in this country, and the perfect heat. It is growing by leaps and bounds, and there is a growing use of coal by electric power utilities. Coal is coming back, but slowly. The electronic age will help.

Getting back to the national fuels policy, what else do you want?

MR. LEWIS: The coal industry needs help to get through a tough period. We want no subsidy, no rebates. Just a code of rules so coal can get a fair chance to participate in the economy and preserve the capital invested so the industry can be in a position to serve our mounting needs.

Would the industry then prosper?

MR. LEWIS: Modern enterprises would prosper. That has been demonstrated. Of about 8,000 entities producing coal in 28 states, only 500 produce 75 per cent of the tonnage. The rest are small mines, uneconomic, inefficient. We need more centralized management and reduced sales cost. The public suffers from cost of distribution, with increasing taxes on every element of distribution. There is no reason why a modern operated coal company with efficient management, enough capital and a good sales force to operate, isn't a good investment.

What about coal reserves?

MR. LEWIS: In all our history we have mined only about five per cent of our coal reserves. Our reserves are practically limitless. But we are foolishly wasting our reserves of special purpose coals—for example our metallurgical coal for steel of which we have limited reserves.

How limited are they?

MR. LEWIS: In 15 or 20 years there will be an acute scarcity of these coals. A national fuels policy should give consideration to conservation of these coals by limiting their use. Some companies are wasting this coal to make steam. We're very wasteful. We leave half the coal underground where we can never recover it, just because it's cheaper to leave it than to mine it. We're doing that even with metallurgical coal. They can't afford to do that in Europe. In the United States, we just take the cream.

What about natural gas?

MR. LEWIS: Natural gas is not im-

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portant to us from a competitive standpoint. We watch it closely, however. We watch every application for a pipeline. That's natural gas. Gas in the mines is another thing. And gas in Congress.

Would stockpiling coal help the situation?

MR. LEWIS: Stockpiling is not a fundamental answer. But if anybody wants to talk about it, we're willing.

What is being done in the way of research on new uses for coal?

MR. LEWIS: The government has an obligation to research new uses for coal. That should be part of a national fuels policy. The industry is limited in its resources, having a hard enough time meeting payrolls and taxes. Instead of helping the coal producers, who are unable to assess themselves for the high cost of research, the government has, instead, struck down its research in coal. It has shut down or restricted the operation of a number of government coal research facilities.

Would a cut in labor costs help?

MR. LEWIS: Not at all. Cost of coal at the mine is lower today than in 1948. In one typical district, in Northern West Virginia, where the daily production per man is 12 tons a day, a wage reduction of \$3 a day to each miner would make a saving of 25 cents a ton. And that 25 cents a ton reduction would not be the solution to the economic problems affecting the industry.

Mr. Lewis, do you plan to reopen your labor contract soon?

MR. LEWIS: I don't know anything about that and I wouldn't tell you if I did. After all, if I told you everything I knew, then you would know as much as I do about it. And then where would we be?

Why have you let a whole year go by without taking advantage of your labor contract to ask for improvements? You have gone two years without asking for a wage increase. That's unprecedented, isn't it?

MR. LEWIS: No. We have had contracts in the past that have run two years and at one time even five years.

Do you think the studies the government is making on the coal situation will result in any relief?

MR. LEWIS: We are always hopeful. I might say that investigations—prolonged ones—are one thing from which the industry suffers. We get investigations, but no conclusions, no remedial action. We talk about the problem, but nobody does anything. We investigate, but don't conclude. Make election promises, but never act.

END

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DEHYDROFREEZING:

Revolution on your dinner table

LEADERS of the U. S. food industry are excited over a new food processing technique known as dehydrofreezing. Some call it the most promising and revolutionary advance in their field since the advent of quick-freezing.

Developed by a group of researchers at the Department of Agriculture's Western Utilization Research Branch in Albany, Calif., dehydrofreezing combines features of two established processes—dehydration and quick-freezing. A list of the resulting advantages reads like an answer to many a food processor's prayers.

Most of the fruits and vegetables we eat consist largely of water. About 80 per cent of an ordinary green pea, for example, is moisture; the remaining 20 per cent being the solids which hold the flavor and nutritive value. Carrots are a bare ten per cent solids, and lima beans only 25 per cent. Nearly all fruits are similarly composed. This means that at least three fourths of the money we spend on the packaging, shipping and storing of foods is spent to handle water.

But the majority of our produce loses too much of its taste, texture and nutrition when completely dried. These values are lost, for the most part, while removing the last small fraction of water. Dehydrofreezing removes from 50 to 70 per cent of the water, then quick-freezes the remainder of the food.

Given its normal cooking time in water, the vegetable recovers its original form and flavor. Processed, it is a package of frozen food one half or a third its normal size, extremely solid and with intense flavor. With dehydrofreezing, a standard 30-pound commercial frozen pea package holds the basis for 90 pounds of reconstituted peas. And many taste panels hold that taste and texture are as good as or superior to that of ordinary frozen food.

What reduced size and weight can mean to the food industry is readily apparent. Agriculture has tended to become specialized by regions. Last year, for example, the eight western states turned out 156,000,000 of the 204,000,000 pounds of frozen peas produced in the United States. The same states packed 65,000,000 of the 82,000,000 pounds of frozen broccoli, and nearly all of the 22,000,000 pounds of frozen Brussels sprouts. This region provided from 52 to 86 per cent of all our frozen asparagus, lima beans, corn, cauliflower and carrots, among other items. Yet the principal consumer areas still lie east of the Mississippi.

This pattern of regional farm specialization has made increasingly expensive long distance shipping an almost constant cost added to the nation's food bill. Storage and packaging costs also are going steadily higher. Dehydrofreezing promises to cut these three major items of overhead substantially.

How close is dehydrofreezing (or "DF," as it is known to the trade) to commercial reality? There is a good chance that in the past year or two you have eaten DF products without knowing it. Developed in the immediate postwar years by Western Utilization

Research Branch's Dr. Louis B. Howard and his associates, Dr. William Ramage and Clyde L. Rasmussen, DF was an outgrowth of the lab's intensive work in concentrating foods for the armed forces. Patented in 1947, samples were distributed shortly thereafter, and approval was cautious but unanimous.

By 1952 production line methods had been developed, and the storage qualities of DF produce proven. Commercial market testing was well under way, and is continuing as new items are tried, with primary interest among processors selling foods for remanufacture.

By 1953 California Vegetable Concentrates, a Huntington Park, Calif., firm specializing in dehydration, was packing nearly 100,000 pounds of pimientos, dehydrofrozen. The success of this batch leads the company's executives to believe they will double their production in 1954.

Last year dehydrofrozen apples went into limited production in New York and California. In Oregon, the Umatilla Canning Company is packing DF peas, and working with other DF items. Part of the company's output went to the Army's Quartermaster Corps for testing. The military is especially interested in dehydrofreezing's space-saving qualities for overseas shipment and storage, combined with the morale factor of its quality.

Although dehydrofreezing adds an extra step to the normal quick-freezing process, it is still economically sound. A belt method of air-drying has been worked out, which adds perhaps 30 minutes to production time. And the partially dehydrated foods freeze faster.

Fruits and vegetables which have been dehydrofrozen successfully include snap beans, carrots, okra, apricots, peaches, beans and red sour cherries.

The biggest question in dehydrofreezing's future is the retail market. Can DF packaged foods win a place in the freezer cabinets of the nation's grocers? The consensus is that they probably will. At present no attempt is being made to venture into retail sales. It is much easier for processors to sell to the manufacturers and the military, to institutions and restaurants.

But chances are that retail testing will begin soon.

An important attribute of a dehydrofrozen food in home use is its neatness. With 50 to 80 per cent less water incorporated in a DF package, freezer "drip" during thawing is nearly eliminated. Segments are easily separable and quite dry. And DF foods thaw quickly and reconstitute easily.

One problem that bothers DF crystal-gazers is that the housewife may be suspicious of paying full price for such a small package. But it is thought that advertising can convert this handicap to an advantage by stressing compactness.

In any event, DF's advantages weigh heavily with processors and manufacturers. Just how far the new process will go, however, depends on the nation's ultimate economic arbiter, the consumer.

END

—PATRICIA & RONALD M. DEUTSCH

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The man caught in the middle, a manufacturer's representative from Michigan, sustained a severe back injury. He was able to get home all right, but couldn't travel his territory for several months.

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ance is in the Hartford Accident and Indemnity Company, and the Hartford organization handled all the details. In Indiana. In Missouri. In Michigan. And handled them all beautifully, I might add. They paid for the car damage. And they made good to the Michigan man for his medical expenses and his loss of earnings while disabled, a total of \$5500. Both claimants expressed themselves as completely satisfied with the prompt, considerate treatment they received.

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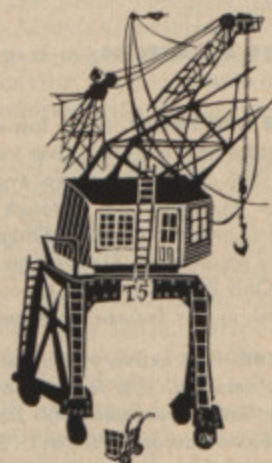
Canada—World's Fastest Growing Economy

(Continued from page 31)

Canadian steel industry has soaked through the economy is shown by Eastern Steel Products. It has grown from a small plant to three modern factories and 1,100 employees. Eastern makes snow plows, the steel barns familiar across Ontario, and the 32½-acre roof for the Ford Company of Canada's assembly plant at Oakville.

Canada supplies 85 per cent of the free world's nickel, and most of this comes from the five mines of International Nickel in north Ontario. The industry is currently spending \$85,000,000 in expansion and a search for new mines.

Uranium, though, is the magic metal of the North. The greatest mineral hunt in history is under way. The best proven find is around Lake Athabasca that tilts like a pitcher from northwest Saskatchewan to Alberta, but the search has spread to three other provinces and to within 600 miles of the North Pole. The money spent on this hunt, \$65,000,-



000, is small potatoes compared to the investment in other expansions. Yet the signs of generous supplies give Canada a cocky feeling about its place in the atomic world. Minister Howe confidently predicts practical atomic power in five years.

Canada's largest industry is pulp and paper, and this, too, has shot up and is still growing. It is a \$1,000,000,000 industry with \$750,000,000 invested in the pulp and paper side since 1947, and \$500,000 in new chemical lines. Newsprint production is up 27 per cent and chemical pulp 50 per cent in the same era. The United States buys 85 per cent of the newsprint.

The Abitibi Power & Paper Co.,

which 40 years ago was a small lumber camp that could be reached only by canoe, today has a book value of \$150,000,000 and is spending \$45,000,000 on a six-year expansion and research program.

A boom with all the bounce of a Texas rodeo is the great oil strike in Alberta, the discovery of 1,200 square miles of tar sands with oil equaling the world's known reserves and pipelines reaching across the continent and two nations. The potential output of Alberta oil is 500,000 barrels a day. At the end of this year, Canadian oil will have spent more than \$1,000,000,000 in three years on exploring and developing properties. This is about \$1,000,000 a day. An analysis by the Jones Howard Investment Company of Montreal shows the startling growth in 1952-53—number of producing wells up 25.3 per cent, proven reserves up 26 per cent, and year's output up 31.5 per cent.

Yet, because Canada's standard of living and car sales have risen so, this oil production will fill only half of the nation's needs. Canada is consuming more oil per person than the U. S., and the rate of increase is higher. Autos have multiplied in number twice in Canada since 1946, and the use of oil products for heating four times.

Two great pipelines, Edmonton to Vancouver across the mountains, Edmonton to Superior, Wis., and on to Sarnia at the base of Lake Huron will help solve a tough problem. Today, Canadian oil cannot compete in Montreal with Middle East and Latin American oil hauled by Panamanian or Greek tankers. Canada's largest oil company is Imperial Oil, Ltd., owning a third of the producing wells and reserves. It is controlled by Standard Oil of New Jersey.

Natural gas, some 13,000,000,000,000 cubic feet in Alberta Province alone, was found almost incidentally during the oil search. Trans-Canada Pipe Lines plans a large natural gas pipeline, with a flow of 540,000,000 cubic feet daily, from Alberta, Winnipeg, and eventually across to Montreal. A spur line to Minneapolis depends on the approval of the Federal Power Commission which turned down a similar proposal for a pipeline to the U. S. northwest.

Canada's firm grip on tomorrow is shown in the chemical industry. Polymer Corporation, with its modernistic world of towers, pipes and global structures at Sarnia, Ont., its trade name of Polysar known in four continents, its \$10,000,000 expansion program, is only 13 years old. It was born in an hour of crisis when Britain feared it had lost the natural rubber of Malaya. Today, Polymer

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SERVICE!***



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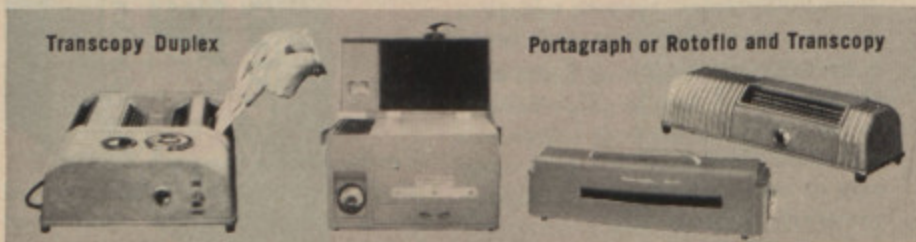
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No question of it! Photocopying is the quickest and most economical way to reproduce records. The only question is, "Which method best fits your particular needs?" For example, in transfer copying, should you use a single combined unit or separate exposing and processing machines? Should you use a rotary printer or a flat-bed printer?

Remington Rand is in a unique position to answer those questions for you, because the Remington Rand photocopying line is the most complete in the field. You can be sure we will recommend the best equipment for *your* office, because we make, not just one, but **all** types of machines.



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makes 30 different types of synthetic rubber, has one of the world's most modern research laboratories and a \$70,000,000 plant on the St. Clair River.

The chemical industry here has spent nearly \$1,000,000,000 in capital outlay in the postwar era, and last year's product was worth more than \$800,000,000. Yet, the industry is caught in a dilemma that, to varying degrees, faces all business in the north. True to its free trade policy, Canada has no high trade barriers. Last year almost \$222,000,000 of chemical imports entered Canada.

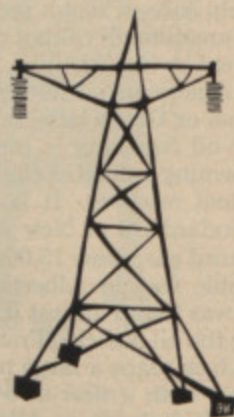
Yet the foreign market for Canadian chemicals is narrowed by currency problems and high U. S. duties on chemicals.

A forecast that Canada's own needs for chemicals will double by 1975 makes the future more secure.

The aviation field shows, perhaps better than any other industry, the dynamics, brains and teamwork of a growing nation.

Canada's two hot jet warplanes, the CF-100 and the F86E Sabre jet, are in demand throughout the free world, and are produced for NATO, the United Kingdom as well as Canada.

Canadians boast the Sabre jet day fighter is "the finest combat plane in the world . . . the only combat plane in mass production capable of meeting the MIG 15 on equal terms." It



uses the Orenda jet engine, the first Canadian created and produced aircraft engine.

The CF-100 is a twin jet, all-weather interceptor fighter capable of going aloft night or day. It is equipped entirely with rocket armament and is said to be the most heavily armed jet in the world.

Eventually, it will be rigged with another exciting Canadian product, the air to air guided missile capable of seeking out planes flying as high as 40,000 feet and at the speed of sound.

Another plane, the Beaver, won a U. S. Defense Department contract

in a competitive bid against six rivals.

The two major aviation firms are Canadair and Avro, which, between them, expect to be the greatest exporter of defense planes in the free world.

Canadian teamwork produced the Sabre and CF-100. In making the latter, the manufacturers needed magnesium castings of a type and size not found anywhere. Light Alloys of Renfrew made them. Stainless steel castings for the same plane originally came across the Atlantic. But Shawinigan Chemicals with a small shop at Grand' Mere, Quebec, and Canada Iron Foundries created a new and better casting from a new heat-resistant alloy.



The Canadian expansion did not spring up like Topsy. Seven factors spur it on. They are:

1 Canada has 60,000,000 horsepower of cheap water power, and less than a fourth of it is being used.

2 Canada is a mammoth storehouse of ores and oil. R. E. Fowler, one of the leading industrial spokesmen of Canada (he is president of the powerful Pulp and Paper Association), explained, "It isn't that we suddenly stumbled on our resources. World needs just caught up with us."

The need was World War II and Korea, and the U. S. realization that its own resources are dwindling. Canada can handily fill deficits of timber products, iron, copper, lead, zinc, nickel and oil.

3 Canada's tax system and stable government are a powerful magnet for American venture capital. U. S. investments in Canada leaped 70 per cent since the end of World War II. There is no capital gains tax in Canada. The excess profits tax was junked in 1947. Expenses for exploring and drilling for oil, gas and minerals for the years 1949-56 can be written off up to the income of the company the same year. New mines are exempt from the income tax for the first three years. The depletion allowance for mines, oil and gas wells is a third of net profits.

An informal tax reciprocity between Canada and the U. S. prevents

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double taxation. There have been some hitches, and Canadian business is carefully watching the attempt of U. S. Internal Revenue to collect \$1,500,000 involving the Steep Rock Iron Mines of Ontario. The defendants claim taxes were paid to the Canadian government on the transaction in question.

4 There is an unusually friendly teamwork between government and industry. Canadian business executives speak warmly of C. D. Howe as a good friend, and in Ottawa a statement by "Bob" Fowler has the weight of Scriptures.

5 The war created a demand for Canada's products at any cost. In Britain's hour of crisis, Canada's modern steel mills, airframe factories, synthetic rubber plants and shipyards were born.

6 A dynamic vigor is evident to even the most casual visitor to Canada. A young Canadian executive expressed it in these words: "We used to think of ourselves as poor relatives to the United States and Britain. The war threw us big jobs we didn't even know we could handle. But we did, and we did it well. We were a nation of 13,000,000, and we raised 1,000,000 fighting volunteers. There are 150,000 Canadians under crosses in Europe to prove we are a great nation. I never felt so proud of my country as when I stepped on European soil in a Canadian uniform and heard a cockney shout, 'Hi, Canada!' There is nothing we can't do now, and we're out to prove it."

This spirit carries with it some resentment of the Texas drawls in Calgary and the New York members on boards of directors of Canadian companies. Canadians like to have the rest of the world recognize a little known fact—85 per cent of Canada's resources development, industrial expansion and other capital facilities were financed in the postwar period from Canadian savings.

Also, Canadian investment in the United States is higher per capita (15,000,000 people as against 162,000,000) than American investment in Canada.

Privately owned Canadian investments chiefly in the U. S. without counting investments of Canada's banks and insurance companies, were more than \$1,250,000,000 three years ago, and have continued to rise since.

On tourist trade, the United States is a creditor, for last year Canadian visitors spent \$307,000,000 in the U. S., and Americans only \$282,000,000 in the North.

7 Salesmanship has a lot to do with Canada's boom in the mind of R. E. Powell, the shrewd Alcan president who sits at a roll-top desk overlooking the St. Lawrence. He said, "North Americans look on selling as a great adventure, but in Europe a salesman is a glorified peddler. All the Germans want to be doctors. The making of markets is the salesman's gift. Up here, enterprise has a chance to work and pioneer."

"That is why I believe Canada's prosperity will grow."

There are signs this prosperity is being jarred, temporarily, by forces

beyond Canada's control. Last year saw a sudden foreign trade switch from a \$325,000,000 surplus to a \$210,000,000 deficit.

The highest deficit was with the United States. The reversal was caused by lowered demand, import controls and currency exchange problems.

This year's exports declined ten per cent, industrial activity three to five per cent below last year, and unemployment has increased by 100,000.

These signs raise questions asked by Mr. Fowler in a thoughtful discussion of U. S.-Canadian trade re-



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Why wait? When the weather gets hot, a lot of people order air conditioning all at once. Installations may be rushed or delayed. They cost more.

Buy now! Carrier Dealers have the equipment on hand and the men to put right on the job. They have the time to cut corners. These savings they can pass on to you.

"I never thought of that."

No interference! You can have a Carrier Weathermaker installed at your convenience. No overtime to pay. No interference with regular business activity.

Use it in winter, too!

The Weathermaker not only cools, it cleans, circulates, ventilates and can heat the air, too. Use it for cooling during peak rush periods. Have it ready for the first hot day!

"That makes sense!"



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NATION'S BUSINESS • NOVEMBER 1954

lations in his Montreal office, "Will Americans accept our fabricated and semifabricated goods when we are able to manufacture them competitively?"

"How reliable a market will we have in the U. S. to justify the fast development of our resources? What do you really want from Canada—a strong, balanced economy to make us a prosperous and strong ally in an uncertain world, or just a convenient supplier of the raw materials you happen to run short of and can't get elsewhere in case of a major war? I doubt if it is wise for the United States to put Canada

down as a marginal supplier. I know it is not good enough for Canada.

"Canada has not been hurt seriously yet by American import barriers, but we feel we are caught in a physiological war of nerves. The American decision to keep out Swiss watches was regarded with a great deal of alarm up here."

Mr. Powell spoke even more bluntly, explaining that as a long-time American citizen he had that right.

"The United States is lucky to have Canada as a neighbor and ally, and we are fortunate to have you next door. We complement one an-

other. Canada has raw materials and products it can make better and cheaper than in the United States. America will have to understand we will do more than merely dig our raw materials from the ground and sell them to you when you need them. Canada will want to process its ores in part.

"The United States is spending its ore resources at a rapid rate, due to a growing population and a higher standard of living. I can remember when Pennsylvania was a great oil producing center; but no more. America would be wise to conserve its own reserves and obtain semi-processed ores from Canada. But if the United States wants to treat Canada like one of those Sunday groceries where you buy only when all the other stores are closed, it may find Canada not so eager to sell. Other markets may seem more reliable."

Donald L. Morrell, the efficient and popular general secretary of the Canadian Chamber of Commerce, added, "It will be a severe setback to Canadian and western world prosperity if the United States puts up trade barriers against our products."

But, if this problem can be worked out, O. J. Firestone, the brilliant economic adviser to Minister Howe, has a prophesy for the Canadian child of today, "We foresee at least another 50 per cent improvement in

conditioning in the fall?

Carrier

Weathermaker* Air Conditioning

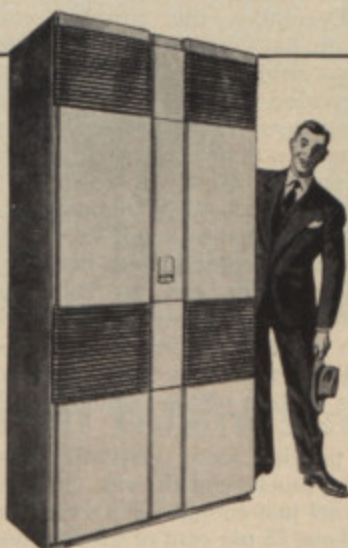
...but the smartest will buy it right now!



Pay in May! Your Carrier Dealer offers quick, easy financing. You can wait till May to make your first payment. And you'll avoid possible increases in installation costs.

Needs no water! The new Weathermaker is air-cooled. It requires no water for cooling. But water-cooled models are available where water is plentiful or inexpensive.

"Say, this really IS a smart deal!"



New 1955 Carrier Weathermakers for stores, restaurants, offices

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Look under the hood for extra value—

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*Reg. U. S. Pat. Off.

Carrier

FIRST NAME IN AIR CONDITIONING

Gas Station

The clapboard building, glistening white,
Three pumps, tall in a row—
The window boxes, gaily bright,
Where blossoms bravely show.

This is no mere commercial place,
No matter what it seem—
Behind its neat, prosaic face,
Some man has built his dream.

—Lee Avery

income when you grow up, as well as a 50 per cent rise in standard of living. . . . Canadians will continue to depend heavily on foreign trade. But world markets will only grow if industrialization, resources development, prosperity and economic security are widespread. Canada must work hard with other like-minded nations to expand world trade and economic development on an international scale. The thing to remember is this—economic common sense goes hand in hand with political common sense."

END

OR WRITE CARRIER CORPORATION, SYRACUSE, NEW YORK



25,000 ANSWERS YOU CAN USE

TWENTY-FIVE thousand families across the country are taking part in the nation's biggest monthly quiz program, anonymously providing their fellow citizens with vital statistics. They serve four months, take eight months off, and then go back on the panel for four months more. After that, they're through, and others take their places.

The pay for those taking part is zero, the time involved slight, the benefit to the nation considerable, although not precisely calculable.

What is it? It's the Census Bureau's Current Population Survey, an impressive instrument for taking the pulse of the nation.

The Survey's primary purpose is to get a monthly picture of the national employment situation. But it also is used periodically to find out about personal income, indicate how many families are moving from one state to another, check the amount and type of education Americans are getting, and test the size and composition of the nation's families.

In addition, the Survey occasionally takes on special jobs, such as inquiring how many persons are disabled, learning for the Agriculture Department how many of the boys who left farms to fight in Korea went back to farming, checking the incidence of certain diseases for the Public Health Service, and surveying the characteristics of the nation's elderly people.

All this is done by approximately 350 enumerators, who appear in the households that make up each month's panel with a small card bearing the questions. Each month the same questions about employment are asked. They seek to pinpoint who in the family is working, how much, and precisely what he is doing if not working. Answers also provide information about the type of work done by each worker.

Every February, May, August and November the panel is asked, in addition, for detailed information

about persons who work part time, which the Census Bureau defines as less than 35 hours a week.

In January, the supplemental part of the quiz deals with the number of weeks each employed person worked during the year just ended. The added questions for April cover migration, family characteristics, and income. Education is covered each October.

In March, June, July, September and December the supplemental space on the cards is given over to whatever subjects the Census Bureau is persuaded—usually by other government agencies, but occasionally by private, nonprofit research groups—it would be worth while to ask.

Selection of the 25,000 households that the enumerators will visit each month is a complicated business. The households and the 230 geographical areas they are in are chosen by a scientific process designed to assure that they represent a cross section of the population.

To provide some continuity, but not too much, the Survey changes the panel just enough each month so that about 75 per cent of the families questioned are the same as the month before and about 50 per cent are ones who were on the panel the same month a year earlier. A particular household gets on the panel when the selection process touches the area where the family lives.

The Survey each month is made for the week which includes the eighth day of the month. The cards the enumerators fill out are sent to Census headquarters at Suitland, Md., near Washington. There the information is fed into Univac—an electronic "brain" that translates the Survey's sample into the figures that would have been obtained if the questions had been asked in every household.

Naturally, with such a sample so small, there is a considerable margin of error. The Census Bureau knows this, tries constantly to nar-

row the margin, and points out that even with the margin there is no other population check as scientifically accurate.

The resulting figures have many uses. They are one of the barometers read by the President's Council of Economic Advisers and other agencies—government and private—keeping watch on the national economy. The Chamber of Commerce of the United States, trade associations, labor organizations and manufacturing firms use them to keep track of employment, unemployment, the extent of overtime, part-time work and the composition of the labor force. When there is a manpower pinch, the figures provide information about the people who are out of the work force and possibly available for work.

The annual check made on income shows the income level in various parts of the nation, indicates changes in potential purchasing power. It was from the Survey, for example, that market research groups first learned of the surge in the purchasing power of the nation's Negroes.

The statistics on the composition of families offer valuable indicators to the construction industry, furniture dealers and others.

A group of prominent private citizens, whom Secretary of Commerce Sinclair Weeks invited to serve on an "Intensive Review Committee" evaluating the work of the Census Bureau last year, found the Current Population Survey "a powerful tool" for ascertaining the employment situation. Other information rounded up by the Survey "is of significance as current indicators of the condition of the economy and as a guide to public and private policy," the Committee declared.

One of the ideas the Survey has been considering as a subject for some supplemental questions is consumer spending for durable goods. This would be of obvious interest to manufacturers and sellers of such goods.—JAMES T. ROGERS **END**



What happens when businessmen are too rushed?

YOU KNOW the *obvious* things, of course. The piled-up desk, the decisions hanging fire, the appointments cancelled, the people you can't see. It's a picture that's all too familiar in most business offices. But the really *serious* part of it is the way an important matter can get lost in the shuffle. A matter, for example, that could mean the *end* of your business.

If you're perpetually rushed, the chances are you never really have *time* to check and see whether your accounts receivable and other business records are kept in a really *trustworthy* safe, or a potential "incinerator." There are *thousands* of "unsafe" safes

in use, today. They don't bear the Underwriters' Laboratories, Inc. label. If a fire ever starts, they cremate records. Leave them in ashes.

And what makes it worse is that you can't count on a fireproof building to *prevent* such a tragedy. These buildings just *wall-in* fires. Make them *hotter*.

And even though you can *normally* count on fire insurance to cover your losses, it probably would not cover them fully, if you lost your records. There's a clause which says: "proof-of-loss must be rendered within 60 days." Could you "render" it without records?

Don't let "*being rushed*" keep you from protecting yourself! You could lose everything! Out of every 100 firms that lose their records in a fire—43 never reopen. And many of the rest struggle for years to recover.

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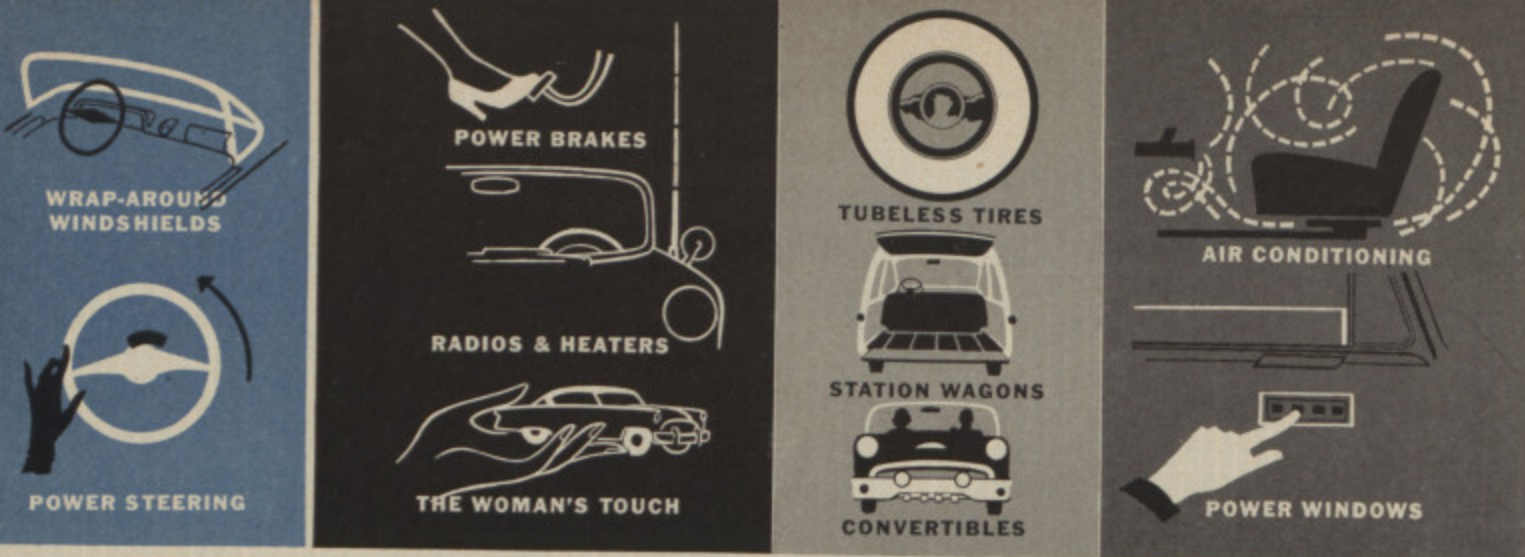


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WHITE HORSE of course!

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High style, color, safety, comfort and convenience—all these and more will be found in America's 1955 cars

6,000,000 new cars

Biggest battleground for sales

By WILFRED OWEN

ACROSS the nation autumn is displaying the most colorful harvest of new cars in motoring memory. Touched by the frost of last winter's reluctant buyers, the industry's bumper crop dazzles with reds and yellows, pastels, and two-tones, ushering in what many are claiming to be "the most momentous new-model changeovers of all time." The manufacturers are going all-out with "all-new cars."

The new look is long, low, and luxurious, with accent on the eggcrate grille, wrap-around windshield, and visored headlamps. Matching interiors and exteriors, along with power steering, brakes, seats and windows, measure the affection that Detroit is feeling for 20,000,000 women drivers, 30 per cent of the nation's total.

Amazing strides have been made in the efficiency and economy of air-conditioning; new engines with emphasis on the V-8 provide more power and driving ease; and there are new suspension systems, automatic transmissions, and tubeless tires for comfort and safety.

The big splurge is easily explained: 1955 is going to settle some momentous issues for the industry. First is the question of sales leadership. This year Chevrolet and Ford have been battling on nearly even terms, with Ford showing a strong comeback after years of being behind. Early in October the production totals for 1954 showed 1,054,000 Chevrolets and 1,106,000 Fords. The giants will be looking for a clear-cut decision in 1955.

The second question is whether the Chrysler line can recover enough lost mileage to make the Big Two the Big Three again. This year Plymouth fell far behind the two leaders and has yielded third place to Buick. The comeback bid is being made with a brand new product, but the competition between Ford and Chevrolet will make Plymouth's problem still harder.

The third question is whether the independents can recapture the share of the market they held before the

General Motors and Ford lines took over the postwar customers. These two big producers have accounted for 84 per cent of total output thus far this year. But the small companies are merging for the attack. Hudson and Nash have combined to form American Motors; Kaiser and Willys are going it together; and the merger of Packard with Studebaker is the latest. But it may not be the last.

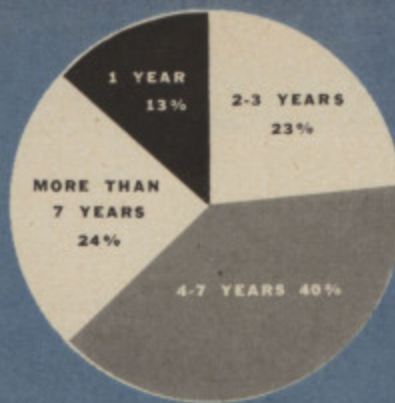
The fourth and most important question is whether the industry as a whole will be able to build up a demand that can match the levels of production that expanded plant and improved manufacturing techniques have made possible in the postwar period. Since the automobile industry ranks so high in terms of employment and material requirements, its ability to sell and therefore to produce is of great significance to the health of the entire economy.

If the automobile industry is to increase its contribution to economic growth and development, the year to beat is 1950. That year an all-time high of 6,300,000 new cars were driven away from the dealers. The total was 2,500,000 more cars than were sold in 1929, which marked the prewar high. After the record performance of 1950 the defense program put a dent in automobile production, but by 1953 materials restrictions were off again, and sales of 5,700,000 cars made '53 the second best year in history.

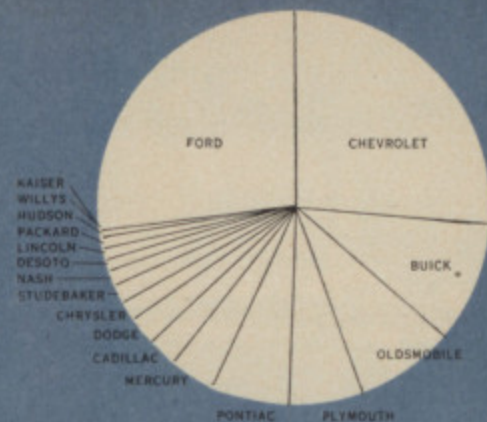
This year big price concessions and tempting allowances on the old jalopy have moved a lot more cars than was expected a few months ago. For a while it was hard to find a dealer who viewed the future of the gasoline age with any genuine enthusiasm. As the gloom begins to lift, however, it looks like 1954 will be good for 5,500,000 cars, and better than all but the top two years in the annals of the industry.

With all its fancy new wares, what kind of a performance can be expected of the industry in 1955? The

Of the 48,000,000 automobiles on the road, 12,000,000 are more than seven years old and 1,500,000 of these are more than 20. Ford and Chevrolet production account for half the cars made in 1954, and sales leadership is the 1955 stake



AGE OF CARS ON THE ROAD



1954 PRODUCTION THROUGH SEPTEMBER

answer to that is up to the 68,000,000 people in the United States who drive. Who are these people, what are they like, and how are they likely to react?

The nicest thing about them, from the standpoint of the industry, is that buying new automobiles is one of the things they like to do most. Since the end of the war they have bought 40,000,000 cars. Those were brand new. In an ordinary year buyers may purchase twice as many used cars as new cars. Last year 8,000,000 used cars found new homes.

The probability that motorists will go right on buying more and more automobiles looks like a mathematical certainty. Just the number of vehicles needed to replace the worn outs has reached a sizable figure. With 48,000,000 cars now on the road, and a 12-year life about the average, auto makers can count on a replacement market of 4,000,000 a year as "normal." But with radical changes in design offered at a time when employment and consumer incomes are high, replacements should be well above the normal level.

One thing that should brighten the 1955 picture is that a good many people are driving cars that are old, and the '55's are going to make these oldsters look antique. Forty per cent of our cars are four to seven years old and 24 per cent are more than seven. About 1,500,000 are more than 20 years old. When these ancient models came off the production lines people were buying Flints and Jordans, Reos, Willys-Knights, Overlands and Moons. The new models will drive these relics closer to the graveyard.

In spite of all the old cars on the road, 13 out of every 100 cars operating today are a year old or less, and another 23 per cent are two to three years old. But even this fact does not necessarily dampen the sales outlook. A surprising number of people with relatively new cars turn them in on something newer. Last year one fourth of all cars turned in were only one or two years old, and two years ago half of all the turn-ins were in this youthful group.

The auto industry's best friend is the man who owns two cars, or three, or more. Today 11 per cent of all owners have two or more cars, and the upward trend in multiple-car ownership seems certain to continue. In the western states one out of every six car owners is now supporting at least two automobiles.

People bent on driving a bargain may not be too happy over the 1955 line. They will be getting a bigger run but for the same money, and some features once optional and expensive will be turning up as standard. Yet the average motorist is hardened to the high price of riding. Auto lovers have high standards and low

sales resistance. The average price paid for a new car these days, with all the trimmings, is \$2,500. After turning in the old car the net outlay averages \$1,700.

About two thirds of today's purchasers are borrowing the money to pay these prices, and they still owe more than \$10,000,000,000 on the cars they drive. Many a motorist never arrives at the point of actually owning his automobile, and about every third car on the road is operating on the instalment plan.

The feminine influence is apparent in the trend toward cars with color. Various shades of blue are currently the most popular, accounting for 25 per cent of the paint the industry uses. Greens are in second place with 21 per cent of the total. Red, beige, gray, maroon and ivory, and shades of yellows, oranges and lavenders are included in the spectrum. Black was the leader as recently as 1947.

The kaleidoscopic view afforded by today's production lines makes it difficult to realize how recently the development of automatic painting and enduring pigments has made possible the speedy processing of varied and durable surfaces. It used to take 23 days and 19 coats to paint an auto, and output was limited to the space available to store the cars while they dried.

Taking these factors into consideration, can 1955 set an all-time sales record for the industry? Or have successful recent efforts to move dealers' stocks of 1954 models amounted to "borrowing" from next year's sales? The optimists can point to many additional facts in their favor. Fifteen million more people will be wanting to move around next year than in 1950. Total production of goods and services should be at least 20 per cent greater. With one third of American families still without a car, continuing high employment and rising personal incomes could boost the number of buyers over the 6,000,000 mark.

Not all the factors, of course, are favorable. One of the biggest deterrents to automobile ownership is the fact that most car owners live in cities, where the problem of battling congestion and finding a place to park are trying the patience of the most intrepid drivers. In New York City, for example, motorists receive a traffic summons at the rate of one every 30 seconds.

The automobile industry, with its super de luxe assortment of 1955 dream cars, has only the traffic nightmare to worry about. The dilemma is apparent: the better the cars the more buyers, and the more buyers the more congested the roads they ride. If the President's \$50,000,000,000 highway construction proposal currently under study can break up the jam, 1955 will indeed be a year of decision.

Accidents can still happen, but the chances for survival get better every year because the automobile

6,000,000 new cars

They are built to save lives

By **ALFRED TOOMBS**

HOW SAFE will your new car be?

Automotive engineers say the answer lies with the driver, because today's auto is the safest ever built.

Making the contraption go fast has never been a serious problem. Back in 1906 Fred Marriott drove an automobile 190 miles an hour, and lived to tell the story in spite of cracking up. The problem, of course, has been to make the car move safely, to package all that horsepower, put it on four wheels and design it so that people will have the best chance of getting where they are going without accident.

So down through the years, while the salesmen and the public have been beguiled with style and comfort in automobiles, the engineers have been engaged in a grim battle against death on the highways.

How well have they succeeded?

Many people suspect that today's cars are flashy, but flimsy. They have the uneasy feeling that, by adding chrome, rounded contours, wrap-around windshields and other styling devices, the manufacturers have sacrificed sturdiness. People worry about the high horsepower available to the Saturday night Barney Oldfields. And their anxieties are heightened by those who call for safety devices to compensate for the hazards of today's cars.

Part of the proof that today's car

is the safest ever built can be read in accident statistics which show an amazing decline in the fatality rate in the past 16 years. From 1937 to 1953, the number of registered vehicles increased from 29,706,158 to 56,313,281. Mileage driven increased from 270,110,000,000 to 540,000,000,000. But the number of fatalities decreased—from 39,643 in 1937 to 38,300 in 1953. The death rate dropped from 14.7 per 100,000,000 miles to 7.1—52 per cent.

Earle S. MacPherson, Ford Motor Company vice president for engineering and an old-timer in the industry, recalls the day when accidents were chargeable principally to car failure.

"Can you remember when front wheel spindles would break and you'd see your wheel roll down the road ahead of you?" he asks. "Or when flywheels would explode? Or when brakes would lock—after a spring leaf had broken—and throw a car into a sudden skid? Now how long has it been since you've heard of an accident caused by mechanical failure?"

The statistic is fractional—making it obvious that engineers have practically eliminated the car by itself as a cause of deaths.

This has been made possible by the most intensive program of testing and engineering research done

on any product for civilian use. In one of Detroit's show places—the Engineering Laboratory at the Chrysler Corporation—the visitor can see the kind of safety testing that leading auto makers carry on.

Every one of the more than 15,000 parts that goes into a Chrysler car is tested for strength and durability. In the labs engineers have developed safety equipment which the average driver doesn't even know is in his car—self-tightening wheel bolts, brake fluid that won't boil even after half a dozen successive crash stops, and even a safer ash tray, which is located so the driver can use it without distracting his attention.

In the Chrysler stress analysis laboratory, polarized light, X rays and stroboscopic cameras hunt out possible weaknesses in everything from fans to axles, to the little knob on the gear shift lever. Special machines have been constructed simply to determine such facts as the point at which a flywheel will disintegrate—three times the number of rpm turned up when a car goes 80.

In the brake laboratory every part of the brake system, from pedals to hoses to the tiny rubber seal for the brake cylinder, is put through the equivalent of 150,000 crash stops from 30 miles an hour.

Powerful dynamometers record engine action at speeds up to 80 mph



manufacturers devote skill, imagination and money to building cars that will be as safe as possible

and for as long as 1,200 hours. Huge machines push molded "mechanical fannies" down on car seats to test the springs. Hydraulic presses twist and pull on auto bodies and frames to see how much they will stand. Even the colored glass in rear lights is tested in Fade-Ometers and Weather-Ometers to see how it will stand up under eight years of use.

As cars are assembled from these pretested parts, they get more than 2,000 inspections along the line. Then some are taken out to the proving grounds, where 30,000 miles a day are run up in tests aimed at increasing safe operation.

"In this industry, we don't leave safety to guesses or to personal opinion," says Mr. James C. Zeder, Chrysler vice president and one of the industry's leading engineers. "When you have built a car that will respond to any demand, you have taken the element of danger out of the machines."

The manufacturers keep close check on reports from dealers and drivers which might indicate safety hazards. A report that a child has been injured on some unpadded part of the interior or that an air filter has caught fire or that the safety latch on a hood has proved ineffective will touch off weeks of intensive study to duplicate the failure. Then orders will go out to change assembly line procedure to eliminate the hazard, no matter how small.

An automobile must obey only three basic commands—start, stop and turn—but its factor of safety is determined largely by its ability to do these things.

The first automobile employed the primitive braking and turning devices of the buggy and only after these were improved could speed be added. The development of the brake through the stage of the internal expanding type, the four-wheel brake, the hydraulic brake

and ultimately the power brake has infinitely increased the automobile's ability to obey the stop command. The invention and improvement of the present front-wheel steering system, better springs, shock absorbers and the rear suspension system, have made turning a safer process.

But how has increased power, as expressed in terms of added horsepower, affected the safe operation of automobiles? There is a feeling that here the engineers have handed many drivers a death warrant.

"Many people feel that by increasing horsepower in today's car we have increased top speeds," says Charles A. Chayne, vice president and top engineer of General Motors. "Many of today's cars have less top speed than the same makes built 15 years ago.

"We add horsepower without adding appreciably to top speed because we believe it makes cars safer. The low pressure tires, a safety device on today's car, absorb from five to eight horsepower each at highway speeds. The fan, water pump and generator take up from seven to 12 horsepower. Power steering and air conditioning steal more horsepower.

"What we are after, for safety reasons, is increased torque, or pickup. There were something like 5,500 fatal accidents last year in which one car was on the wrong side of the road. With cars that will deliver faster forward thrust, we hope to get some of these drivers around the slow-moving traffic and back into their own lanes."

The cars have become so safe that engineers sometimes have trouble making them misbehave for safety tests. Ford engineers were experimenting with glass inserts in the tops of new models and tried to devise a method to tumble the cars over on their tops in a more or less predictable fashion.

"It took us two months to figure out how to turn the car over just the

way we wanted," one of them recalls. "The only way we were able to do it was to make the car imperfect—by lousing up the brake system, so only one side would grab.

"We were doing this without a driver in the car, of course. One nut behind the wheel would have made it much easier."

But the engineers, down through the years, have done amazing things to protect the nut—and the good driver—from his own mistakes behind the wheel. Years of research were necessary before the engineers perfected the thin, yet strong, corner posts which increase the visibility out of today's cars.

In city traffic, today's driver would go half crazy driving at night in a car with old-fashioned vertical windows. The inward slanting glass eliminates confusing reflections. Mr. MacPherson brought this idea home from Europe when he was at Hupmobile. He installed it there for the first time in a production car. The industry quickly adopted and improved upon it for safety reasons.

Important safety improvements are engineered into cars and remain almost unnoticed by drivers. The re-arrangement of the dashboard, to group instruments in front of the driver, provide subdued lighting and eliminate protruding knobs, is a good example. Doors are now generally hinged to the front, so that air pressure will force them closed in case they are opened while the car is in motion. Door handles rotate backward or upward so they will not be opened inadvertently. Even door locks are designed so that the forward motion of the cars forces them to close tighter.

But as long as cars are driven by humans there will be accidents.

What protection have the engineers provided for passengers in your new car?

The idea is generally held that to-



Today's cars are battered but whole after rollover structural tests. Older models of cars fall to pieces

day's car is built of lighter metal than the prewar models. Actually, since the middle of the 1930's, the industry has used 20-gauge steel for auto skins. In recent years, it has been contoured—and a sharp blow is more likely to dent it than the old flat surfaces. But a dented fender, the engineers know, may save a dented skull.

For the crushability of the metal which is on all sides of today's car affords positive passenger protection. The massive grilles and shiny bumpers which are part of the front end overhang are capable of high crash energy absorption.

"The old spring steel bumper would take a blow—and pass it right on to the car passengers," explains Mr. Chayne. "But the crumpling metal on today's car will dissipate some of the shock. It's the difference between getting hit on the head with an empty pail, that will dent, and a pail full of liquid, which won't."

The cushion of crumpling metal—plus other engineering developments such as safety glass and the all-steel top—means that more people can hope to come out of crashes alive. Any lingering doubts about the durability of today's car compared with those made in the "good old days" would be quickly dissipated by a visit to the General Motors Proving Ground during tumble-over tests.

Watch as a 1953 Oldsmobile is towed down the track at 50 miles an hour and released in such a way that its left wheels ride up a ramp that rises to a height of four feet. The driverless car leaps into the air, lands on its side and rolls over and over on the hard earth, coming to a stop 100 yards away.

There are smashed fenders, cracked glass and a huge ridge in the steel top. But the doors still can be opened and closed. When the car is righted, it can be driven away.

Now watch this prewar Oldsmobile—vintage 1936—go through

the same test. As it takes off from the ramp, its old-fashioned hood flaps in the breeze like a sea gull in flight. Its doors pop open. As it lands and rolls over, the car virtually disintegrates. Bits of wood, metal and glass fly through the air. When the dust settles, nothing is left of the car above the floorboards. No one in it could possibly have survived.

Many people think of safety as a magic gimmick, which will be installed in all cars any year now and give everyone complete protection. But the engineers don't believe in miracles. They think of safety advances in terms of real, attainable design.

Today they are trying to make it possible for such things as power brakes, power steering, windshield washers, heat absorbing glass and air conditioning to become standard equipment. These improvements, which increase visibility and reduce driver fatigue, are considered to be important safety devices, as are the new polarized headlights which probably will go into use next fall.

Tubeless tires, another safety feature, will come into widespread use on 1955 cars. All Chrysler-made passenger autos, Fords, Studebakers, Chevrolets and Pontiacs will have them as standard equipment.

Meanwhile they test all sorts of ideas which come in from all sorts of sources. One of these is the so-called pop-out windshield. Another is the crushable steering wheel. Both are designed to give way under the impact of a body thrust against them with force.

"But before we install anything like this," says Howard Gandelot, Vehicle Safety Engineer for General Motors, "we must answer some tough questions. In an accident, is the passenger more likely to be killed if smashed against a windshield than if hurled out of the car head first? Will a break-away steering wheel

actually protect the driver better than a sturdy wheel?

"Being too certain about these things makes me think of a fellow who ordered seat belts installed in a new convertible. Wouldn't drive out of the agency without them. Some time later he turned the car over, was pinned under it and crushed. He would have been thrown clear, probably, without the seat belt—and landed on soft ground."

One manufacturer offered safety belts as optional equipment a few years ago. It hurt business because people concluded the car wasn't safe without belts. They can be bought now and installed at a cost of about \$100 for the three front seat belts.

Mr. Gandelot gave me an opportunity to drive a car equipped with the safety harness. Since a simple waist belt isn't enough to keep a passenger's head from hitting the windshield or the top of the instrument panel, it is necessary to add a strap over the shoulder, designed like the old Army Sam Browne belt.

The car we rode was cluttered with the airline type belts. After a short drive the strap caused an ache in my shoulder. I found myself restrained in one position and beginning to tire. It was difficult to lean forward to see traffic on the right.

"Unless someone invents a strong kind of lace, I can't picture a lady in evening dress slipping into one of these," Mr. Gandelot commented.

"Someone has said that it's possible to package eggs and ship them long distances safely—so why can't we do the same for people? Well, people aren't eggs, and we can't package them like eggs.

"We'll keep on trying to package them as safely as they'll allow us. But there's a ceiling on what the automotive engineer is going to be able to do. The real progress in cutting the accident rate will come when we get safer roads—and better-trained drivers."



And a prime advantage for the retailer trying to attract trade is a location near a good restaurant

ling methods. Finally they decided to interview people at their homes. Various types of questionnaires were tried until one was developed which checked out for reliability. Those interviewed numbered 85 women for every 15 men, reflecting the belief that 85 per cent of shopping is done by women. Questions were grouped in four basic categories:

First, what shoppers considered the principal advantages of the central business district.

Second, what they considered the central district's main disadvantages.

Third, what they saw as the chief advantages of the outlying shopping district.

Fourth, what they believed to be the principal disadvantages of the outlying district.

How did parking stack up in the summary? Difficult parking was the number one disadvantage of the central business district. Easy parking, on the other hand, was the number two advantage of the outlying shopping center.

The cost of parking was important to about 70 per cent of shoppers—45 per cent reporting that it mattered a great deal and 25 per cent saying that it mattered some.

Middle and lower income car owners are the ones for whom parking difficulties, parking costs and traffic congestion are of greatest concern. Highest income car owners, either because they have the money to pay for parking space or because they have chauffeur-driven cars, are much less concerned.

The parking problem is not confined to the central business district of big cities. It was found that a good parking program in smaller cities may expand retail trade volume from ten to 20 per cent. Adequate parking in smaller cities can increase both the market price and the assessed value of real estate by as much as 25 per cent. That's an average. Cases are recorded where values skyrocketed when parking facilities were established close at hand.

It also was found that in all cities, regardless of size, adequate parking tends to maintain the sales volume of the central business district, particularly in GAF merchandise (general merchandise, apparel, furniture and appliances).

Many persons were more concerned with traffic congestion than lack of parking and, for shoppers generally, congestion was the third ranking disadvantage of downtown.

But traffic jam or no, the automobile is here to stay as far as the shopper is concerned. Although nine out of ten persons interviewed found parking very difficult downtown, seven out of ten were concerned with parking costs, and eight out of ten found traffic very diffi-

cult. Only one in ten indicated he would let these factors stop him from using his car for shopping.

If parking and traffic conditions were not clearly decisive in making up shoppers' minds, what were the other factors?

Nearness to home was considered the suburban store's most important advantage and the fact that it stayed open during more convenient hours was its third ranking advantage. Distance to the store is particularly important to lower income shoppers.

The informality of stores in the suburban centers gives them a definite appeal to men and to lower income groups. An appreciable percentage of shoppers gives the nod to the outlying district because the shoppers "don't have to dress up."

Big crowds scored heavily against stores in the downtown area, half of all shoppers reporting that they disliked them and only one in ten saying they liked them.

It's important to note that the study deals with normal conditions. Experience has shown that shoppers will travel long distances and wait in line for store openings when spectacular bargains are offered.

Shoppers were asked to consider stores in terms of 23 possible advantages and choose between those in outlying districts and those downtown. The suburbs came up with first place in seven categories. They were: takes less time to get there; less walking required; less tiring; cost of transportation less; easier to take children; the right people shop there, and keep open during more convenient hours.

The 16 advantages cited for stores in the downtown business district were: better places to eat lunch; better delivery service; easier to establish a charge account; easier to return and exchange goods bought; better place to establish credit rating; greater variety and range of prices and quality; greater variety of styles and sizes; more bargain sales; better quality of goods; lower prices; better place to find different kinds of shopping, and other things one may want to do; goods more attractively displayed; more convenient to public transportation; better place for a little outing away from home; more dependable guarantees of goods; best place to meet friends from other parts of city for shopping trip together.

Three suburban disadvantages cited most often were: not enough selection; not all kinds of businesses represented and prices too high.

The central business district's chief disadvantages were: difficult parking, crowded, and congested traffic.

But before you change your merchandising policies, move to a new location, or try to make your store more pleasing, it's important to consider what you're selling



Nearness to home is suburban store's chief advantage

and who your customers are. A grocer, a druggist, a butcher, a baker, a service station operator or a hardware merchant, may be doing as well in his present location and with his present policies as could be expected. When seeking convenience goods, the shopper acts differently than when seeking GAF goods. As a general rule folks stay close to home for convenience goods. That's what keeps the neighborhood merchant in business.

But GAF stores catering to the carriage trade face a different situation than does the man whose clientele comes from the middle income groups. To attract the upper income shopper, a large selection of goods is needed. Upper income shoppers buy where they get the biggest choice of merchandise. That's true of shoppers generally but more for those with high incomes.

On the other hand, a merchant seeking to sell to the middle income groups will do well to talk with the transit company and to watch his prices. More persons in the middle income range are concerned with convenient public transportation and with price levels than are shoppers at the upper and lower extremes.

Some merchants no doubt know just who their customers are, their stations in life, their likes and dislikes and how to attract them to their stores. Many businessmen, however, lack this information and consequently have geared their operations to customers they are least likely to attract and are overlooking the shoppers for whom they could have the greatest appeal.

The study of consumer preferences in Columbus, first of three made under the direction of C. T. Jonassen of Ohio State, reported:

"Most modern shopping centers seem to be adopting a policy which aims their advertising and merchandising at middle and upper income groups. The analysis indicates that if suburban shopping centers are to compete successfully with downtown in attracting persons of these classes, they must assure a large selection of goods. This is economically difficult since it impales the suburban retailer on the horns of a dilemma. To maintain a large enough stock to insure great variety, a shopping center must have a large number of customers, but a large number of customers creates the very parking and crowding problems that repel some people from the downtown section. This development has already occurred in certain new suburban shopping centers, and is beginning to appear in Columbus."

What lessons do the Board's findings in this respect hold for the businessman? Lower income classes are less concerned with large selection and more with prices and distance than are upper groups. Thus, the study concludes, a new type of secondary shopping

center could fill an important need within the urban community. Such a new center would cater particularly, by location and policy, to lower income groups. Besides having ample parking facilities, such centers should be easily accessible by public transportation. The Board points out that existing shopping centers often ignore this latter feature because they expect their customers to come by car anyway. But the findings clearly indicate that as income goes down, the use of an automobile for shopping diminishes.

Those thinking of moving to the outskirts need to count on winning new customers and not on having established clientele follow them to the new location. One of the significant findings of the study was the limited drawing power of the satellite business district in terms of distance. The majority of customers come from a radius of less than two miles, and more than half of these come for convenience goods. The researchers put the maximum drawing distance of the suburban center at five miles.

Those who have been torn between modernizing their stores with a new front and new fixtures, or hiring a new sales force trained in the art of winning friends, should choose the former, according to the study. Although an appreciable number of all classes of shoppers are influenced by clean and modern stores, only a tiny fraction of upper income customers attach importance to friendly and courteous service.

How important is price? Interestingly enough, lower prices seem to hold more attraction for persons in the \$4,000-\$6,000 a year range than for any other group. Ease of credit is a factor among the middle classes, but is unimportant to those at the upper and lower ends of the income scale.

For the most part, those involved in the study of consumer preferences had to make a special trip for shopping. When those who did their buying on the way to and from work were interviewed, it was found that the retailer who is located close to an employment center, whether downtown or in the outskirts, has a distinct advantage. He can count on a large share of business from the so-called "captive shopper."

With the data it has uncovered, can the Board state precisely where the individual shopper will trade and under what conditions? Certainly not. But it can be definite with respect to groups. That groups of shoppers in widely separated cities expressed identical preferences is evidence of the soundness of the findings.

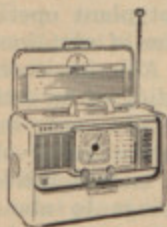
Quite apart from its findings with respect to shoppers and parking, the Board's study is important in one other respect. It points up the increasing attention being given to the economic and sociological phases of highway transportation. During its infancy, the Board, which was founded in 1920, was concerned almost entirely with the physical aspects of road building. First it substituted a "let's get the facts" for the "let's prove something" approach to research. By doing that, by directing research into needed areas, by publishing findings and providing a forum for the discussion of scientific problems, the Board is credited with having advanced the science of highway construction in this country by as much as a decade.

If the Board can do the same on the economic side, merchants, property owners, and government officials will breathe a long sigh of relief. Pointing up the economic problem, half in jest and half in seriousness, one transportation specialist remarked: "If the Board can just figure out some way to have the road come past my property and the parking lot be next door, and get someone else to pay for them, that will be the answer we've all been waiting for."

END



Where in the world was the radio the Army wanted?



The year was 1952. The army wanted a radio that would build morale. One that would let servicemen hear home, wherever in the world they were sent.

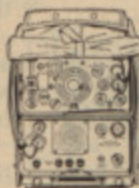
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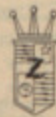
able, already a veteran of 11 years of rugged service all over the world. It had been tested and proven under countless "impossible" conditions. No other radio could touch its performance record. The Army asked Zenith to make a few adaptations in this famous radio, and it was ready as the R-520/URR for government service.

Being ahead of the times in radionics is Zenith's specialty. We are proud that our experience in bringing better things to the American people can serve the Government.



Zenith's experience in shortwave makes them a logical producer of the Army's AN/GRR5. This powerful short-wave radio is used by the Army for receiving messages in the field under very gruelling conditions. It is another example of the benefit of Zenith's 35 years of "know-how" brought to Government service.

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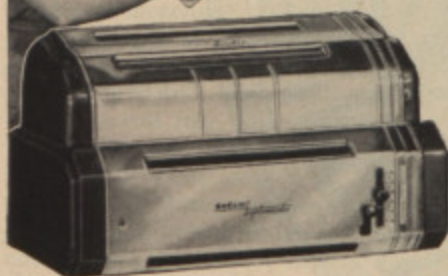
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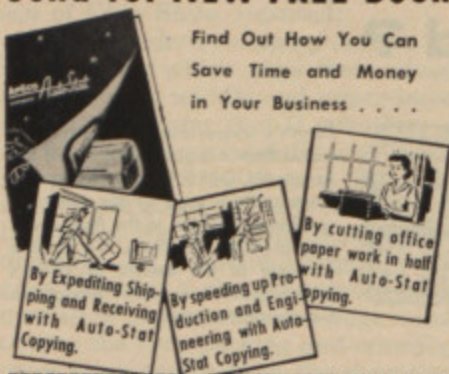
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pilot plants **PROTECT** oil's expansion

By **CRAIG THOMPSON**

SOME 50 years ago, when the Texas oil industry was new, the president of a company now grown to an industrial colossus wrote an important letter to his refinery superintendent.

"Our kerosene," he said, "is of such poor quality that we are in great difficulty. It is not water-clear as it should be, but yellow and murky. When it burns, it stinks. Our salesmen report that in competition with kerosene manufactured from Pennsylvania crude it is at a hopeless disadvantage. What can we do to improve sales?"

The refinery superintendent was also at what seemed to him a hopeless disadvantage. He was an experienced man, one of the best of his time. For months he had been trying every trick he knew to improve the kerosene, but without success.

With the impudence of hopelessness, he replied: "Maybe we could get rid of it by nailing a five dollar bill to the drumhead."

Since a 50-gallon drum of kerosene then sold for less than \$5, what he proposed was not merely giving it away, but paying people to take it. And in those horse and buggy days, kerosene—in terms of company income—was the most important thing the oil refineries made.

That was barely a half century ago. The growth of the oil industry since that exchange remains an ever fresh miracle.

Then the uses of petroleum were limited. It provided heavy fuel for industry, kerosene for home lighting and cooking, and a short range of other products, such as petrolatum and axle grease. Gasoline, an inevitable by-product of refining, was mostly thrown away. Now virtually the whole of our material civilization is in some way based on petroleum, and gasoline is its most valuable and widely used product.

This fantastic transformation, which has taken place within the

adult lives of millions of living men, is the result of research.

In time, the seemingly hopeless problem of making a good, competitive kerosene from that heavy, sulphurous Texas crude was licked. The solution, however, brought new problems. Because kerosene was no longer yellow and murky, many suspicious customers wouldn't buy it. They had become accustomed to the old kind. And so the new water-clear kerosene was yellowed down and customers began buying again.

This remains a fair sample of the sort of thing researchers overcome every time they extend the range of petroleum's usefulness. The predicaments that confounded refinery superintendents of 50 years ago, however, are handled now in routine fashion by pilot plants. This has made a big difference in the approach to problems and the speed with which they are solved.

All oil is different. As each new source is tapped, it must be tested in the pilot plant and refining procedures altered to handle the new crude. Mistakes must be confined to the pilot plant because mistakes in refining are costly.

Confidence in pilot plant operations—plus realization of sustained economic growth in America—contributed to the spending of an estimated \$4,000,000,000 this year for expansion, modernization and development of resources and facilities. This expenditure brings to about \$28,000,000,000 the amount spent by the oil industry since the end of World War II. The U. S. oil industry has tripled its 1945 investment in plant, equipment and resources.

But for the guidance of the pilot plants, much of this vast expenditure might have been wasted.

Pilot plants have been of inestimable help in developing our automotive way of life, leading the way to better fuels for better cars, trucks

and trains; better lubricants for an endless range of industrial uses and a greater abundance of basic materials for the ever expanding chemical and plastics industries. Most people have never seen a pilot plant, and likely never will, but directly or indirectly it affects the lives and the livelihoods of all of us.

Today the economy of the oil industry rests partly on two refinery problems: how to get more of any specific product from each barrel of crude; and how to meet a constantly increasing demand for every product without increasing refinery costs per barrel.

Without pilot plants the price of gasoline today might be 40 cents a gallon instead of the national average of 29 cents (tax included) for regular grade. A quart of premium quality motor oil might be 20 cents higher than it is. A gallon of No. 2 distillate for the home furnace might be eight cents higher.

You can expect higher octane gasoline in the future. Compression ratios of 1930 engines were about five to one. Today most engines have seven to one, with some as high as eight to one. To get the most these new engines can produce, refinery men are making fuel of higher octane. Recent changes in refining processes add up to 25 per cent more power to existing engines and extend mileage eight to ten per cent.

Pilotage is costing the oil industry between \$20,000,000 and \$50,000,000 a year. That \$30,000,000 gap is indicative of the confusion which surrounds the subject. Some companies budget a variable sum ranging from one fifth to one half of one per cent of their gross income for pilot plant construction and operation, charging it to research. Others divide the costs between research and manufacturing budgets. Still others pay outside specialty firms to do their pilotage. It would take a battery of auditors to run down an accurate figure.

Even among experts any discussion of pilot plants is likely to involve definitions. W. O. Taff and R. L. Hardy of the Esso Laboratories once began a scientific paper on "The Design, Construction, and Maintenance of Pilot Plants" with this sentence: "A pilot plant is . . . a management-given opportunity for engineers to make mistakes."

If \$20,000,000 to \$50,000,000 a year seems big money for subsidized error, there is the offsetting philosophy that an industry which employs around 1,830,000 people, and which is spending \$4,000,000,000 for expansion in a single year, could not afford an error in planning.

A mistake in a pilot plant is relatively inexpensive and usually is

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machines
hum



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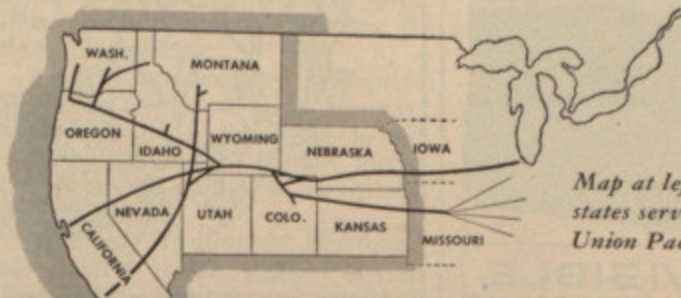


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For complete and confidential information regarding available industrial sites, contact your nearest U. P. representative or write Industrial Development Department, Room 341, Union Pacific Railroad, Omaha 2, Nebr.

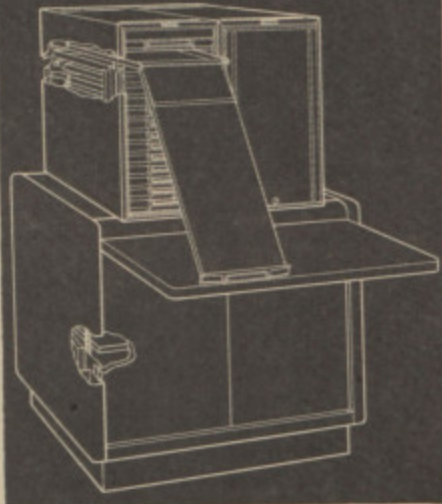


Map at left shows states served by Union Pacific Railroad

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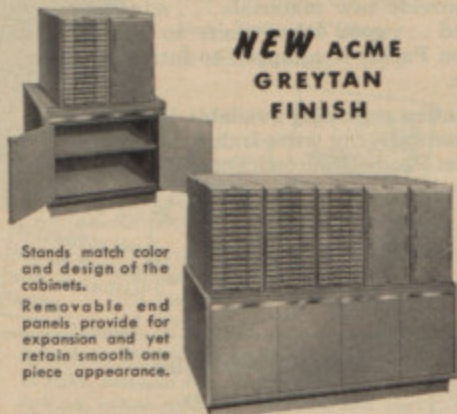
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quickly detected. If the same mistake were built into a big refinery installation, millions would be spent in discovering and correcting it. And you—the consumer—would pay for it in purchasing the end product.

Pilot plants have three main purposes: They are used to explore new ideas, to study and develop new processes, and to further study refinery equipment already built and operating.

Almost every existing pilot plant is a small scale duplicate of some multimillion dollar refinery installation. Though the pilot plant is built before the big one, as an experimental test model, its work is apt to continue as long as the commercial plant is in use. The little plant not only pilots the construction of its gigantic counterpart, but it also provides a continuous flow of engineering data by which the big one may be modified from time to time to meet constantly changing market demands.

A sample of how valuable this engineering information may be has been provided by A. L. Conn of the Standard Oil Company of Indiana. He says: "On one occasion it was found necessary to double the company's capacity to make a certain product. Although the existing manufacturing unit was operating at near capacity, reference to the report on the original pilot plant work indicated that the unit could be operated at twice the capacity if only small design changes were made. Tests confirmed this conclusion and the capacity was doubled at only a fraction of the cost of a second plant. In this case the pilot plant work proved to be worth a lot of money."

Perhaps as much as \$40,000,000!

The second phase of "further study" grows out of the fact that

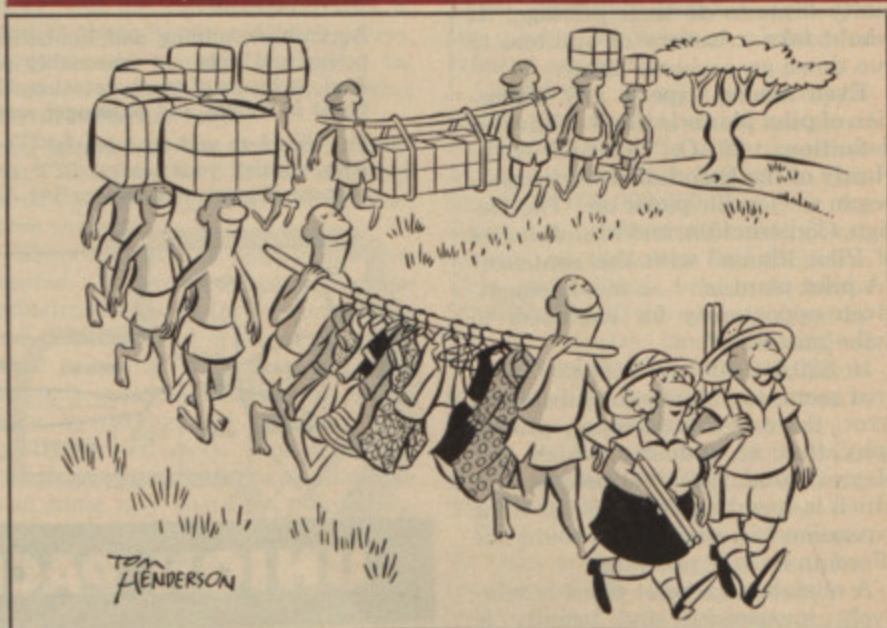
petroleum is devoid of a uniform character. It differs in chemical composition from field to field, in some areas almost from well to well. Forty years ago the chemistry of crude was so little understood, relatively speaking, that about the only thing an oil company could do with production from a new field was to run it through existing refinery installations and see what came out.

Now these problems are first committed to the pilot plants. The reason is simple: The spoilage of just one day's run through a 60,000 barrel refining plant could mean the net loss of more than \$200,000.

While these uses now constitute the bulk of pilot plant work, this fact is more in the nature of a logical development than an original aim. In its beginnings, petroleum pilotage grew out of the researchers' need for working scale models in which to explore new ideas or develop new processes.

Pilotage has created a new category of engineering—the pilot operator. Our universities can produce an acceptable engineer in four to six years; it takes seven or more to make a pilot plant operator and there is no school for him but the experience of apprenticeship. He needs a good mechanical mind, a sixth sense to tell him when things go wrong and why, and patience for making hundreds of routine observations, day after day, with consistent accuracy.

Operators are difficult to obtain. Out of ten apprentices hired not more than one will prove possessed of what it takes to make an even acceptable operator, much less a good one. In fact, by the time a man becomes a good operator he is usually qualified to take over any refinery as foreman, even as superintendent, and keep it going. **END**



IF IT'S WILD THEY'LL EAT IT



IT WAS a raw winter day in 1940 and nothing stirred in the snow which blanketed the zoo in Washington, D. C., except the polar bears. Since there were no crises involving lost children in the lion house nor peanuts hopped up with cayenne in the monkey house, Dr. William Mann, now director of the National Zoological Park, was taking his ease before a roaring blaze in the fireplace of the zoo restaurant. And since there were no customers in the restaurant, Gordon Leech, the zoo's food concessionaire, was chinning with Dr. Mann and some of his cronies, who also made a profession of animals.

"Just the kind of day to be eating haunch of buffalo," said a man from the Fish and Wildlife Service. "Got any on the menu today, Gordon?"

"You get me the buffalo—I'll cook it," said Mr. Leech.

"Not from my zoo," protested Dr. Mann. "I counted the buffalo yesterday—so don't get ideas."

It was a couple of weeks later that a deliveryman showed up at the zoo restaurant and announced:

"Got a buffalo carcass for you—what must I do with it?"

This was a question which Mr. Leech kept repeating to himself for several hours. The wildlife service man had obtained a surplus buffalo from one of the western preserves and there was no doubt that Mr. Leech was going to have to do something with it. So he threw a luncheon at the restaurant.

Out of this meal grew the idea for what is probably the world's daffiest eating society—the Anteater's Association. The Anteaters gather at the zoo half a dozen times a year to nibble at such items of fare as potted northern black bear steak, sirloin tips of Scottish stag, roast ring necked pheasant with wild rice and sausage stuffing or even rattlesnake meat, chef's style. The piece de re-

sistance at an Anteater's luncheon is always game—the wilder the better.

The Anteater's has become a Washington institution. Membership cards are carried by Supreme Court justices, senators, White House attachés and the city's leading businessmen. In an effort to defy the Washington concept that everything must be organized along prescribed lines, the Association has no dues, no committees and no officers other than 855 vice presidents. By a coincidence, there are 855 members.

Game comes from the range where the deer and the buffalo roam, or from the briny deep and stored in the restaurant's freezer. Popular favorites such as buffalo, venison, bear and game birds are repeated each year.

Mr. Leech, in the process of putting on these luncheons, has become one of the country's leading authorities on the preparation of native game. He regards this as the one truly American type of cookery. He answers a fairly steady flow of calls from huntsmen or housewives who want to know how to prepare everything from quail to buffalo.

Not a single French word appears on the menu and an Escoffier might be perplexed by terms which some of the wild game epicures employ in discussing their repast. A particularly succulent bear is referred to as one "shot going downhill." A bear going uphill when shot is apt to be muscular and tough, according to Anteater thinking.

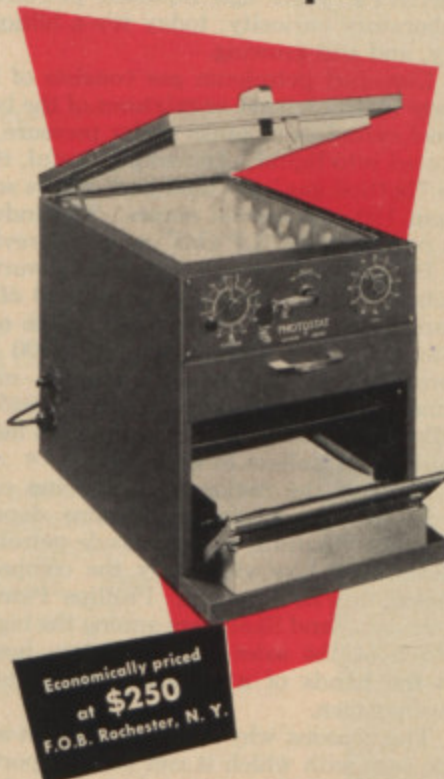
Some club members, like Justice William Douglas or Gene Tunney, meet at Anteater luncheons to tell tales of hunting in distant lands. Others come simply to enjoy the good fellowship.

And, in Washington, the Anteaters have another special charm. Positively no speeches are permitted.

"In this town, nothing could ruin the digestion faster," Mr. Leech explains.—ALFRED TOOMBS **END**

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LP-GAS: from waste to wonder

THIRTY years ago liquefied petroleum gas was a laboratory curiosity; today it's a billion-dollar industry, and still growing.

Liquefied petroleum gas consists of butane or propane hydrocarbons, or mixtures of the two, packed into steel cylinders or tanks under pressure, and thus converted into liquid. Amazingly useful, it also is known as "bottled gas" or "tank gas" and is sold under more than 100 commercial names. The industry currently is popularizing "LP-Gas" as an abbreviated name.

Butane and propane were once worthless by-products of gasoline refining. To get rid of them oil companies "flared" or "weathered" them off at refineries. But in 1953 a total of 4,932,009,000 gallons of this former waste were turned into fuel—more than seven times the amount consumed in 1945. To produce LP-Gas economically, the petroleum industry invested millions of dollars in equipment.

Most of the major oil producing companies have some LP-Gas business. Volume depends upon the amount of natural gas and crude petroleum being processed and how vigorously the companies have promoted this new market. Phillips Petroleum, Warren Petroleum and Skelly are among the biggest producers. Much of the sales and servicing, however, remains in the hands of a coast-to-coast fraternity of small businessmen.

The reasons why LP-Gas is a hot-selling item are the ease with which it can be transported and stored, and the versatile uses to which it can be put.

Here are some of its more important functions:

In Homes: U. S. Bureau of Mines statistics show that a total of 2,479,000,000 gallons were burned last year for domestic and commercial purposes. Users are multiplying at the rate of hundreds of thousands per year, with the heaviest increase occurring in the Midwest and the North Atlantic states. Last year 450,000 LP-Gas ranges, 400,000 furnaces and space heaters, 250,000 water heaters and a lesser number of gas refrigerators were sold. Latest twists: LP-Gas clothes dryers and incinerators.

On Farms: LP-Gas is curing hay and tobacco, dehydrating fruits and vegetables, sterilizing milk cans, warming chicken and pig brooders, smoking meat, flame weeding, scalding and waxing poultry, warming stock water.

At the end of 1953 a total of 160,000 farm tractors burned LP-Gas. This represented an increase of 23 per cent over 1952. Installation of a storage tank, a new type of carburetor and related equipment is required.

As Engine Fuel: About 500,000 gallons of LP-Gas were consumed last year in all types of vehicles. By the end of 1954, it is estimated that more than 2,000 buses, in such cities as Chicago, Wichita, and San Antonio, will use LP-Gas. Another rapidly developing use is fork-lift trucks. Continental Can, Johns-Manville and Lockheed Aircraft recently have shifted to LP-Gas fork-lift trucks.

Industrial Uses: More than 348,000,000 gallons of LP-Gas were sold for industrial purposes last year.

An additional 400,000,000 gallons were used in the manufacture of butadiene rubber and the need continues to increase. Another important use is polyethylene, a fast-growing petrochemical, which requires ethylene produced by cracking LP-Gas. The rapid extension of natural gas pipelines into the East and Midwest has provided an excellent carrier for the lightweight propane and butane. LP-Gas extraction plants are being located along such lines.

A number of large manufacturing concerns are keeping LP-Gas on hand as a standby facility to be used if emergency knocks out or disrupts their conventional fuel source.

Export: Last year some 124,749,000 gallons were shipped abroad, chiefly to Mexico and Canada. Providing heat and fuel in areas where it is hard to obtain is one more way in which American free enterprise can raise living standards around the world.

But behind this silver lining lurk some dark clouds. These are the headaches of the industry:

Supply: With an increase in demand of up to 22 per cent a year, the industry is usually searching for new sources of production. This year at least 12 new plants will come on stream, including two Canadian plants and a new installation in the Williston Basin of North Dakota.

Storage: At present the production storage picture is the brightest it has ever been. But increasing demand could make it a worry again. LP-Gas has one big advantage: It can be produced and stored without regard for the slack season.

At this time there are approximately 82 underground storage installations with a capacity of more than 292,000,000 gallons. Sixty-three others with a total capacity of 245,000,000 gallons are either under construction or consideration.

On the other hand, there is a real problem of trying to stockpile LP-Gas at the consumer level. When a freezing winter spell hits, a distributor's fuel backlog may be depleted unless consumers have kept their tanks filled through the summer. In unseasonably warm weather, bulk gas and cylinders may pile up to the point where they create a local storage problem.

Transportation: The search for lower cost transportation continues. An estimated 20,000 LP-Gas cars are in service on the nation's railroads. Truck movements show a big increase this year and pipeline traffic is up.

Safety Standards: Laws and regulations on LP-Gas in some cities date back to the 1920's and 1930's when the industry lacked present-day safety equipment. One of the major accomplishments last year was a review by the American Gas Association of a pamphlet covering the use of LP-Gas at utility gas plants. The American Petroleum Institute is making progress in the development of standards for the design and construction of LP-Gas facilities at gasoline plants, refineries, tank farms, pipeline and marine terminals. Several states also have revised and modernized their LP-Gas regulations.—ANDREW HAMILTON

END

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Here's What We Guard in Formosa

(Continued from page 37)
but also into the battle for Formosa.

Why is Formosa important?

President Truman explained his about-face policy on Formosa in his June 27 proclamation in these words:

"The attack on Korea makes it plain that communism has passed beyond the use of subversion to conquer independent nations and will now use armed invasion and war. It has defied the orders of the Security Council of the United Nations issued to preserve international peace and security.

"In these circumstances the occupation of Formosa would be a direct threat to the security of the Pacific area and to the United States forces performing their lawful and necessary functions in that area."

Technically, President Truman said that he was neutralizing the battle of Formosa to protect the rear of the American forces going to the rescue of the Republic of Korea.

What gives Formosa this importance?

Formosa was and is regarded as a vital segment of the defense arc that stretches from the Aleutians down through Japan, Okinawa, Formosa, the Philippines, New Guinea and Australia.

Gen. Douglas MacArthur summed up the importance of Formosa in military terms.

He said the "geographic location of Formosa is such that, in the hands of a power unfriendly to the United States, it constitutes an enemy salient in the very center" of the American defense perimeter in the western Pacific.

A hostile Formosa, he said, would be "an unsinkable aircraft carrier and submarine tender ideally located to accomplish offensive strategy and at the same time checkmate defense or counteroffensive operations by friendly forces based on Okinawa and the Philippines."

Airfields on Formosa are only 225 miles from the northern tip of the Philippines. (The Japanese mounted their World War II assault on the Philippines from Formosa.) Formosa is only 400 air miles from targets on Okinawa, where American forces are based, and less than 800 miles from targets in Japan.

Formosa is not only a refuge for Nationalist China, but a living symbol of hope of possible return to the mainland. Formosa is a threat to the Chinese communists, but even more,

it is a rallying point of resistance to Red rule.

Yet Formosa has another value, perhaps even more significant. In the Pacific, world communism has already seized control of China's vast manpower—a population of more than 500,000,000. The communists have made headway in Indochina toward taking over the rich natural resources of Southeast Asia. The Reds' third prime objective is the industrial resources of Japan. Communist conquest of Formosa would forge another link in the chain by which the Reds would drag Japan into the communists' orbit.

What is the extent of American military aid to Formosa?

Military aid to Nationalist China, cut off altogether early in 1950, was resumed shortly after the Seventh Fleet cordon was thrown around the island. General MacArthur made the initial survey trip and soon afterwards a Military Assistance Advisory Group, headed by Maj. Gen. William C. Chase, was established in Formosa. Today MAAG includes approximately 800 officers and men.

The amount of military assistance is an official secret. However, the Department of Defense says that a stream of military weapons and equipment has been moving "at a steady pace" into Formosa. The Chinese air force is being equipped with jet aircraft; antiaircraft artillery is being modernized. The Chinese navy has been strengthened by the addition of patrol and assault craft. Two U. S. destroyers have been lent to the Nationalists.

The Military Assistance Advisory Group, according to the Pentagon, has helped materially to streamline the Chinese military organization and to prepare better-trained fighting men. U. S. personnel work with units in the field down into the battalion level during maneuvers.

What is the extent of economic aid?

Through the Foreign Operations Administration and its predecessor, the Mutual Security Administration, the United States has also been sending four types of economic assistance into Formosa: direct military support; defense support; reconstruction, relief, and rehabilitation; and technical cooperation programs.

The economic assistance given Chiang's Formosa government since he took refuge there in 1949

amounts to more than \$423,000,000 to date, exclusive of direct military items worth another \$90,000,000 scheduled for the current fiscal year. As a result, Formosa has not only been strengthened militarily, but also has been fairly well stabilized economically.

How strong is Chiang Kai-shek?

Chiang brought over his remaining mainland army when he set up headquarters on Formosa. He has been training it since and is believed to have built the force up to more than 500,000 men including most of the 14,000 Red Chinese captives from Korea who refused to return to the mainland. Critics of Chiang say his army is getting to be "too old"; defenders say it is in splendid fighting shape in terms of training, arms, and morale. The Generalissimo put conscription in effect on Formosa. These draftees are trained for the military reserves.

He also has an air force of some 700 planes; a small navy, of which the two American-loaned destroyers are the largest vessels; all kinds of coastal and beach defenses.

In addition, the big Seventh Fleet and land-based Air Force planes protect Formosa by sea and air.

How strong are the Reds?

Red China is estimated to have an army of more than 2,000,000, including highly trained amphibious and air-borne troops; a potent jet air force, which gave a glimpse of its strength in Korea, but which has not shown up in the Formosa battle; a navy made up of gunboats and junks. Some people believe that the junks could sneak through the Seventh Fleet in bad weather to land on Formosa. There is also a report that Red Chinese crews are being trained to man Russian-lent subs.

President Truman had stated that the Seventh Fleet's neutralization of Formosa would probably be lifted at the end of the Korean hostilities. One of President Eisenhower's first acts was to lift the ban on offensive operations by Chiang, but he kept the Seventh Fleet on guard even after the Korean truce was signed.

What is the military situation in Formosa?

By air, sea, and land forays, Chiang has been harassing the Red Chinese and seeking to sow seeds of discontent among the mainland people. He also has partially blockaded the south China coast. Incensed, the Reds recently prepared to move against the tiny islands of Quemoy and Little Quemoy, only five miles off the communist port of

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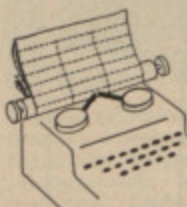
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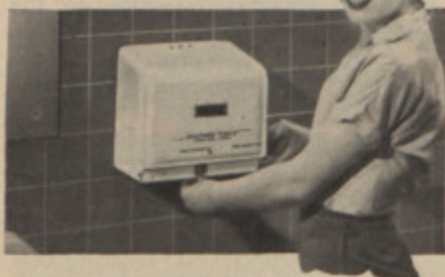
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Amoy. In 1950, the Nationalists beat off a Red attempt to take Quemoy. The more recent invasion move raised concern that, should Chiang lose Quemoy, the loss of face and morale would undermine his position on Formosa.

The Chinese Reds have publicly vowed they will drive Chiang off Quemoy and ultimately Formosa. The threat has raised a question in America as to what the Seventh Fleet would do should the Reds actually seek to overrun Quemoy, which is defended by some 50,000 Nationalist troops. The Truman-Eisenhower order to the Seventh Fleet protecting Formosa specifically blankets the nearby Pescadores Islands in the Formosa Strait. Quemoy, only five miles from the mainland and 95 miles from Formosa, and the dozen other coastal islands held by Chiang are not mentioned in the directive.

President Eisenhower has recently restated the United States intention to prevent Red invasion of Formosa. Any such attack would have to run over the Seventh Fleet, the President said bluntly. However, although the National Security Council is understood to have taken up the Quemoy question, President Eisenhower has remained silent on the decision—for understandable military reasons.

Can the Chinese Reds take Formosa by force?

Secretary of State Dulles recently declared:

"I am convinced, in the light of everything I know, it is not possible for the Chinese communists to take Formosa under any circumstances."

The consensus around Washington backs up the Secretary's comment—so long, of course, as the Seventh Fleet casts its protective arm around the island fortress.

Can they do it by subversion?

Some observers feel that the Reds might seize Formosa through subversion.

To prevent such an eventuality, Chiang operates pretty much under martial law in Formosa and compels his troops to undergo continual political indoctrination.

In addition to a tendency for some losing generals to join the winner—as demonstrated by the mass defec-

tions from Chiang's banner when the Red armies began to march in triumph during 1948—there is also doubt in some quarters as to the loyalty of the Formosa Chinese population toward the Generalissimo.

The Formosan Chinese, under 50 years of Japanese rule, had developed a high standard of literacy and economic development; even so, because of virtual extinction of their civil liberties by the Japanese, they welcomed Chiang's forces. Their joy was short-lived. Chiang's governor, Chen Yi—as later reported by General Wedemeyer in a survey of the situation—"ruthlessly, corruptly and avariciously" looted Formosa. The Formosans rebelled in March, 1947, and were massacred through duplicity.

Chiang, under pressure of the United States, sent a reform governor to Formosa, and later, when he set up the seat of his Nationalist Government there he placed K. C. Wu, former mayor of Shanghai with a reputation for honesty and decency, over provincial affairs. Wu helped ease the tension, but in due course he himself broke with Chiang and fled to this country.

Wu charged the Generalissimo with operating a police state, with the police power being executed by Chiang Ching-kuo, the Generalissimo's son.

Champions of Chiang say that the Generalissimo, under threat of Red subversion, has no alternative but to run the island with a firm hand. They say he has cleaned his administration of graft, corruption, and the "squeeze."

How does the United Nations stand on Formosa?

When President Truman, in June, 1950, ordered American troops into Korea, he did so at the express request of the United Nations for help in halting aggression.

But when he ordered the Seventh Fleet to neutralize Formosa, he acted on his own authority as Commander in Chief. He had no sanction from the United Nations or, for that matter, from the Congress of the United States.

Members of the United Nations—except Russia and her satellites—generally applauded the American entry into Korea, but were for the most part unhappy about the For-



mosan action. Some of the nations, including Great Britain, had already recognized the communist government as the government of the Chinese mainland.

As of today, 17 of the 60 members of the United Nations recognize the communist regime as the official government of China. However, Soviet efforts to have the Nationalist Government thrown out of the United Nations and replaced in the Security Council by communist China, initiated early in 1950, have made little progress.

Similarly, Red China's efforts to have the United States branded an "aggressor" through Seventh Fleet operations off Formosa have gotten nowhere.

The so-called "neutral" nations in the global ideological war between the United States and Russia are split on American intervention in Formosa. For its part, communist China has been wooing Great Britain and Japan with trade; India and Burma with good will visits and vigorous espousal of "anti-colonialism" in Asia.

Our major ally, Great Britain, feels that the United States is too rigidly committed to defending Formosa and Chiang. The British can see some reasons for keeping the Reds out of Formosa, but apparently no reason at all for keeping Chiang in the saddle. Mr. Churchill never had much faith in Chiang. Former Prime Minister Clement Attlee has said that he would give Formosa to the Reds and exile Chiang to what he calls a "safe place."

What is the attitude of the American people toward Formosa?

There is a considerable diversity of opinion. Some see Chiang as the only hope for an anti-Red China; others see no hope for a democratic China so long as Chiang is the leader of the anti-communists. Some see China as a growing threat to our security, and would go to war now to prevent war at a more disadvantageous future; others feel that the United States has failed to take steps to wean the Peiping regime away from Moscow.

One vocal group of American people believes that, despite the \$4,000,000,000 in aid given Chiang since 1937, the United States has never given the Nationalists adequate aid to lick the communists—and is not now giving Chiang enough arms and weapons. This group, which includes legislators, former military leaders, business and labor leaders, conservatives and liberals, lobbyists and foreign agents, has been dubbed the "China Lobby." **END**



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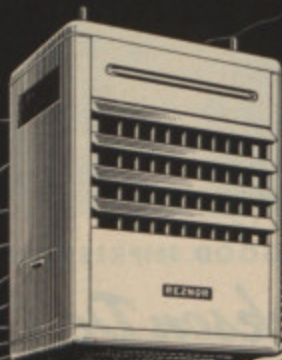
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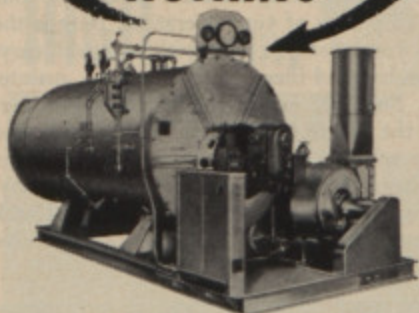
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PROPERTY FOR SALE

Inquire Uncle Sam

By **ALAN L. OTTEN** and **CHARLES B. SEIB**

WANT to buy a genuine lonely lighthouse where you can get away from it all?

Need a choice site for a new motel?

Or would your company like to take over a 52-acre, \$3,250,000 plant set up to produce calcium carbide?

These are just a few of the properties Uncle Sam is putting on the block in a new program to sell millions—perhaps billions—of dollars' worth of real estate for which public ownership can no longer be justified.

The properties are already moving onto the market in a slow trickle. Within a month or two, the Eisenhower administration hopes to see this become a swift stream.

Spearheading the federal speed-up in surplus real estate disposal is David H. Brill, a lawyer from Chicago. He has been named "Administrator of a Special Project for accelerating the disposition of surplus real property owned by the federal government."

In plain English, his job is to shake loose from federal agencies properties they no longer need, and then see to it that most of these properties are sold to private buyers as quickly as possible. The purposes of his project: 1, to save the government the high maintenance costs now paid on unneeded properties; 2, to increase Treasury revenues with the money taken in from sales; 3, to return the properties to state and local tax rolls, from which they are exempt as long as they are federally owned.

Mr. Brill is in a position to crack the whip in his search for surplus property, operating as he does from the pursestring-controlling Budget Bureau and with the blessing of President Eisenhower. And once he shakes the properties loose, the other part of his job—getting them sold—is made a lot easier by a new law passed near the close of the last Congress.

This law permits the government to make full use of private real estate appraisers and dealers in marketing surplus properties. Previously, it was difficult to use the real estate industry and disposal of surplus real property was slow and inefficient.

Samples from a list of properties the government now has on the market give an idea of the variety which will become available when the program gets into full swing.

There is, for example, the Nauset Beach Light Station at Eastham, Mass. High on the dunes overlooking the Atlantic, the station consists of 3.6 acres, with a frame house and a garage. It's being offered by the Boston office of the General Services Administration. GSA handles the mechanics of selling government property once it is declared surplus.

Then there's that calcium carbide plant. It is at Ashtabula, Ohio, and was built by the Reconstruction Finance Corp. to meet World War II needs. This fully equipped plant is empty now, and the government is in a mood to consider an offer.

Here are some of the other properties that are on Uncle Sam's "For Sale" list:

The Trundy Point Fire Control Station at Cape Elizabeth, Me., 5.6 acres with a 58-foot steel tower and a 67½-foot concrete tower containing living quarters.

Forty-one acres of land in Sacramento County, near Walnut Grove, Calif.; suitable for agriculture, trailer court or motel, the government says.

Eighty acres on the Old Fort Livingston Military Reservation on Grand Terre Island, Jefferson Parish, La., suitable for recreation or oil field operation site.

A 120-acre farm in Carlton County, near Kettle River, Minn.; a ten-acre farm in Yelm County, Wash.; and more than 100 tracts of farm land ranging from less than an

acre to more than 200 acres at the High Point hydroelectric project, Yadkinville, N. C.

Still other items include 415 acres of unimproved land in Gulf County, Fla., a wildlife refuge in Massachusetts, a discarded jail in Alaska (this one you have to carry away), an Agriculture Department nursery in Texas and numerous light stations, fire control stations and industrial properties.

Calling upon his background as an attorney for building corporations, hotel groups and real estate firms and eight years as secretary of the commission for the huge Chicago Medical Center, Mr. Brill has laid out a two-part program.

The short-range part is to decide whether agencies are properly looking over their properties to determine which can be disposed of right now, to point out any need for "more aggressive action" on declaring property surplus, and to find ways to eliminate "circumstances delaying disposal," once surplus declarations are made.

The second part—the long-term part—is to set up procedures which will enable the government to root out and get rid of surplus properties on a continuing basis.

To do all this, Mr. Brill is assembling a staff of 15 to 20 specialists who will roam the country to learn firsthand whether government agencies are holding onto property they no longer need.

Mr. Brill's first aim is to develop a "stockpile" of surplus real estate. This will include not only those properties which are clearly not needed, but those which should be disposed of for other reasons. Some properties, for example, are more valuable for uses other than those for which the government is using them. The government should seriously consider selling these, he says, and move to less valuable quarters where it can still provide the same service at less cost.

Mr. Brill also feels that the changes in the use of government properties over the years will provide a large amount of surplus for the market. As an illustration, the Denver Federal Center covers a tremendous acreage because the property was originally designed as an ordnance center and a fringe area was needed for public protection. But now, he says, the Center is used just for offices and warehouses and the fringe is no longer needed. It's valuable land, that fringe—160 acres worth about \$1,000 an acre—and Mr. Brill has his eyes on it.

In many instances, the government simply acquired too much land in the first place. Mr. Brill points out

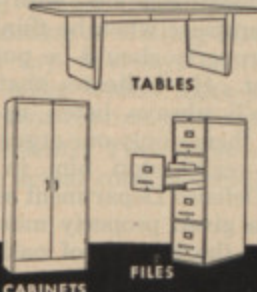


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that a veterans hospital might have 400 acres of land, although its buildings occupy only an acre and a half or two acres. Even if another ten acres is held for future expansion, he declares, more than 300 acres of such an installation could easily be sold.

Mr. Brill doesn't expect his job to be all sweetness and light.

"We'll meet some resistance, to be sure," he says. "An example occurred recently when officials in one federal agency in Chicago put up a terrific fight against closing their regional headquarters there because they hated to give up beautifully paneled offices. But we hope to meet resistance with logical reasoning. It's largely an educational job."

Since he operates from the Budget Bureau and since that Bureau sets the budgets of all other federal agencies, Mr. Brill will be able to back up his "educational job" with considerable pressure when he thinks a piece of property should be put on the market. He indicates that although he'll always listen to the other side, there's only one argument that will really stop him in his tracks: a Defense Department assertion that a given property must be retained in the interest of national security.

Once Mr. Brill succeeds in getting a property declared surplus, GSA checks with other government agencies to learn whether one of them wants and needs the property. Then the possibility of sale or other disposal to state or local governments is investigated. Finally, if both these steps draw blanks, the property is put up for sale to private buyers.

So far, the selling job has been about as much of a bottleneck as getting properties declared surplus. GSA, because of fund restrictions, could sell only by advertising for bids, and even that expense had to

come out of the agency's regular appropriations. A broker could collect commission on sale of a government property only through an act of Congress or in the Court of Claims.

Now, thanks to the new law, up to 12 per cent of the amount received in the sale of a piece of government property can be used to cover disposal costs—advertising, appraisals, commissions, and so on. Mr. Brill says he thinks the full 12 per cent will not be needed, that the cost more likely will be no more than seven or eight per cent.

Regarding reports that the new procedure would provide a "wind-fall" for real estate people, he says: "Nobody is going to get anything for nothing. We will pay the customary fees and commissions; no more."

How much will the Brill project bring into the Treasury? No one really knows, of course. Mr. Brill himself is making no firm prediction, but he hopes to see "billions" come in as a result of his efforts. Under a government rule of thumb, a return of about 30 cents on the dollar of acquisition cost is anticipated. This is based on experience since the war in the sale of surplus real property that cost the government \$9,000,000,000 to acquire.

The businessman interested in buying surplus real property should write the Public Building Service, General Services Administration, Washington, and tell exactly what he wants.

"If we have it," GSA says, "we'll contact him. If not, we'll let him know and put his name on our lists."

GSA also suggests that the same type of letter be sent to the director of the nearest GSA regional office. These offices are located in Boston, New York, Washington, Atlanta, Chicago, Kansas City, Dallas, Denver, San Francisco and Seattle. **END**

Corn Harvest: Industries Worth Billions

(Continued from page 34)

vividly how far research has progressed in making use of every part of the corn plant.

Here's what the refiners alone expect to turn out this year for use by industry in scores of varied fields, according to Foundation statistics:

► 1,750,000,000 pounds of starch for the paper, textile, beer and ale, home and commercial laundries, ceramics, manufactured food, printing, rubber and other industries, from bookbinding to dynamite.

► 175,000,000 pounds of dextrin for industries making abrasives, fiberboard drums, dyes, plastics, plywood, twine, linoleum, fireworks,

cigaretts, insulation, inks, leather, magazines, shotgun shells and soap—to name a few.

► 1,500,000,000 pounds of corn syrup for the candy, bakery, chewing gum, beverage, cheese spread, citrus, flavoring, canning and bottling industries.

This product, in addition, finds a number of uses in dentifrices, prepared cereals, chocolate products, ice cream, sauces, dehydrated soups, vinegar and other things. Corn products account for about 25 per cent of the total weight of all candy produced in this country.

► 60,000,000 pounds of crude sugar for use in tanning, commercial acids,

dyes, rayon manufacture and in tobacco and tobacco products.

► 700,000,000 pounds of refined corn sugar (dextrose) used mainly in food and also in paper, textiles, plastics, rubber manufacture, boiler compounds, florists' preservatives, adhesives, electroplating and galvanizing and explosives. Incidentally, dextrose in solution is administered by physicians intravenously to sustain life after great loss of blood or intense shock.

► 250,000,000 pounds of corn oil principally for food and also for use in ammunition, paint and varnish, rubber substitutes, soap, rust preventatives, cosmetics, linoleum, printing inks, gasoline and lubricating oils.

After these products are made and sold (and they're only a portion of an incomplete list containing more than 500 distinct uses), the refiners have enough left over from their four per cent to supply nearly 1,000,000 tons of by-product feeds for use by livestock and poultry farmers—thus helping to complete the industry-agriculture cycle which begins and ends in the cornfield.

One might be tempted to believe, after studying this imposing array, that the uses and products of corn had been exhausted, that the industry had explored every avenue of chemistry and technology and had reached a dead end, or at least a plateau.

It is perhaps surprising, then, to realize that industry leaders think the surface of corn product potentiality has just been scratched.

Robert G. Ruark, vice president of the Corn Products Refining Company, puts it this way:

"We're an old industry and our basic material, corn, has been grown for centuries. Our basic products, too, have been known for many years.

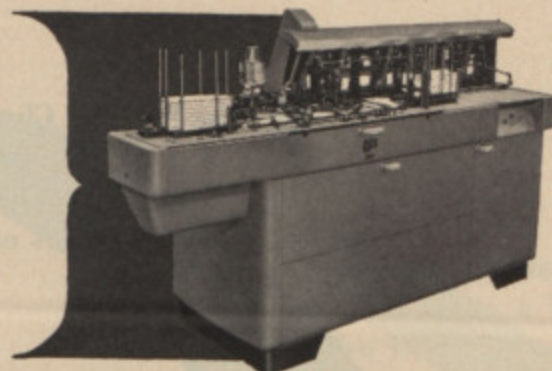
"Our continued growth is highly dependent on two factors, I would say—an increasing population and the ability to diversify still further the uses of our products and the products themselves.

"As far as the first factor is concerned, the corn industry, like others, can only wait and see.

"As for the second, research budgets in all segments of the industry have been vastly increased. Years ago we fell behind in technology but I believe we have done much toward catching up in the past decade and have, in fact, surpassed some other industries.

"I would say that in the refining end alone we will spend from \$5,000,000 to \$6,000,000 on research annually, and possibly more, over the
(Continued on page 102)

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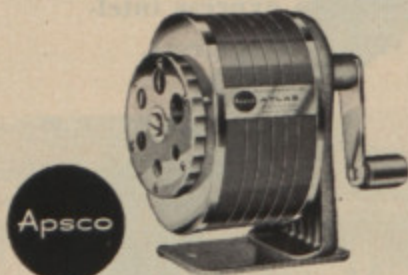
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The rapid growth of technology and the increasingly important part played by new products can be seen developed to a high degree at National Starch Products, Inc., where pioneer work is being done with new and stronger adhesives, many of them not yet on the market; at American Maize-Products Co., whose unique corn variety, waxy maize, is bringing important improvements to packaged foods and bakery starches; at A. E. Staley Manufacturing Co., whose monosodium glutamate is adding zest to the diet of Americans on dining tables from coast to coast; at Clinton Foods Inc., whose output of lactic acid from corn (used in adhesives, chemicals, textiles, leather, paints and plastic) exceeds 10,000,000 pounds a year.

The number of companies engaged wholly or in part in corn product research is difficult to estimate. Each is contributing significantly to the knowledge and practical industrial application of corn. So also does the Corn Industries Research Foundation itself, which has spent more than \$1,000,000 in research since the beginning of World War II.

Even the steepwater in which the grain soaks before it is processed is an important food for growing the molds which in turn produce penicillin, teramycin, streptomycin and aureomycin.

As evidence that the surface has only been scratched, look at what industry's doing with the rest of the

corn plant — the stalks, tassels, leaves and cobs.

Stalks and leaves are used for packing materials, paper and paperboard, wallboard and mattress filling. And the once-lowly cob may bear within itself the seeds of a new wonder world of products.

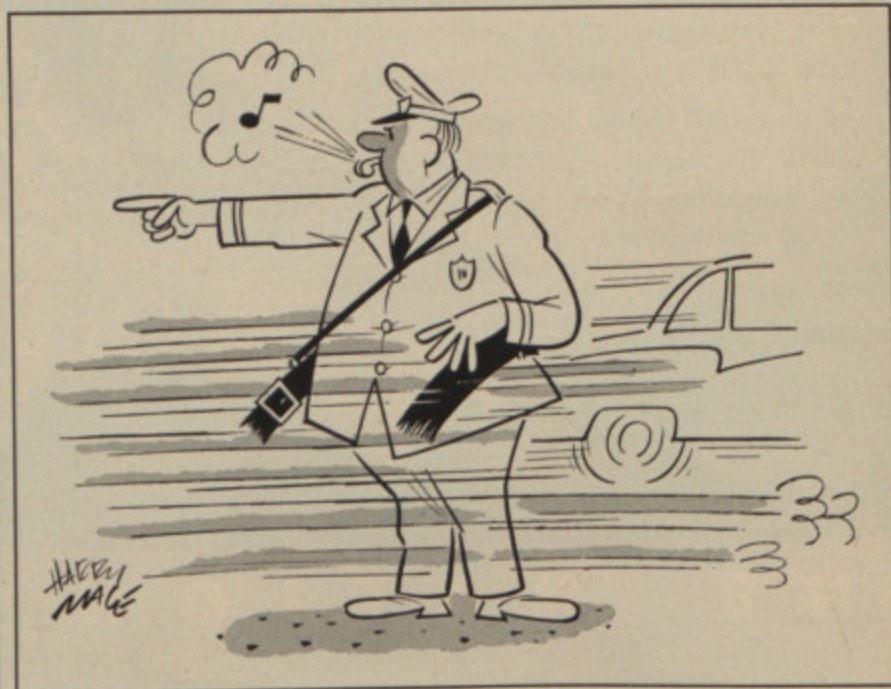
Even today cobs are used as cork substitutes, in fertilizers, for soft-grit blasting of metals, as fuel on the farm, for insulating and packing, for pipe bowls (a special type of ear is grown solely for this purpose in the Washington area of Missouri), as a filler for plastics, as a solvent, in hand soaps and as a dynamite filler.

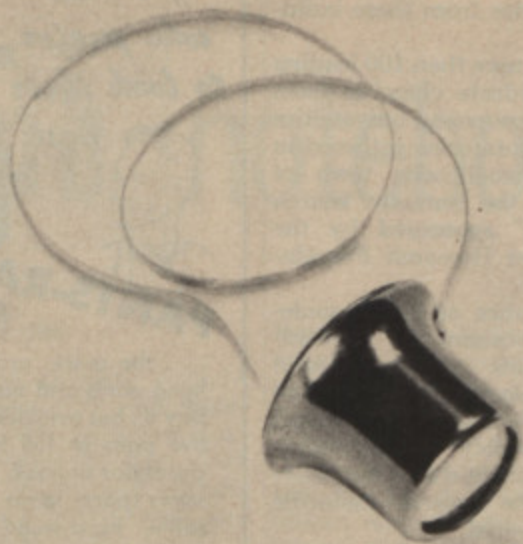
About 20,000,000 tons of corn-cobs are produced on American farms each year. What tonnage doesn't stay on the farm is further processed and mixed with other products to provide additional nutrients for animal consumption.

Approximately 600,000 tons, or two thirds of the processed cobs, go to manufacturers of furfural and furfuryl alcohol, notably the Quaker Oats Co.

These versatile chemicals, in turn, are used as intermediates in the manufacture of nylon, orlon, acrilan and vicara, and in plastic raincoats, synthetic rubber, dyes, wood finishes, artificial leather, insulation, paints, composition board, wood resin, plastics, lubricating oil, paint remover, decalcomanias, lipstick, fuel oil, medicinals, jet fuel, brake linings, clutch facings—even as an odorant for church candles!

The strange-sounding names of some corn products—zein, mannitol, sorbitol, lecithin, xylose, hydrol—may mean little to the casual observer, but in laboratories and plants all over the country eager scientists and





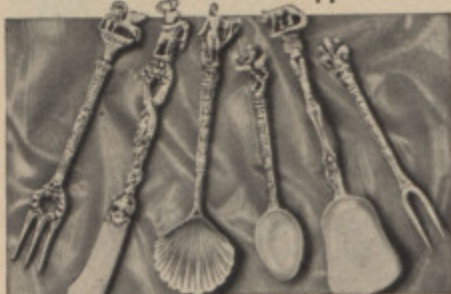
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production experts envision new and greater industries from these building blocks.

Last month more than 100 leading starch carbohydrate chemists from industry, government, universities and private laboratories gathered in the quiet Massachusetts town of Osterville for the annual "Starch Round Table," sponsored by the Corn Industries Research Foundation.

The significance of starch molecule research cannot be overestimated. Chemists at the "Round Table"—and elsewhere—look upon it much as chemists once looked upon the incredibly vast potentialities of petroleum and coal tar derivatives when the benzene molecule ring was discovered.

Can a similar result be possible from corn? Is there some elusive conformation, some heretofore unknown molecular structure that may one day lead to the further fractionating of corn starch—as the fractions of petroleum and coal have given birth to entire new industries?

Some fractions of starch already are known and have been applied commercially, but a large part of the mystery remains. It is easy to understand the excitement of starch chemists over the possibilities of corn. After all, they point out, they are dealing with an enormous and annually renewable crop.

Corn, ages ago, was the staple food of the Mayan and Aztec Indians; today, both directly and through animal conversion into meat, milk and eggs, it still constitutes a larger part of the diet of the American people than any other single crop.

But, says Corn Industries Research Foundation, more striking in the long history of interdependence between man and corn is this:

Present-day corn, unlike other grains such as wheat and rice, cannot seed itself. The fact that it cannot is an impressive commentary on its high state of development. If man should vanish from the earth, corn would vanish a little later.

If man were not on the job maintaining and improving this vital crop with the help of science, the corn plant would simply drop its ears at the foot of its stalk. There the kernels would lie, unable to spread themselves over the earth. The next year perhaps a few kernels would sprout from the half-buried ear, producing a small clump of corn plants so thick that no ears would grow. The third year the corn would have died out completely.

The corn farmer and the industry of which he is a part obviously have no intention of letting that happen.

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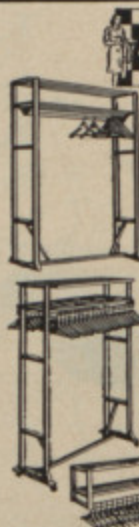
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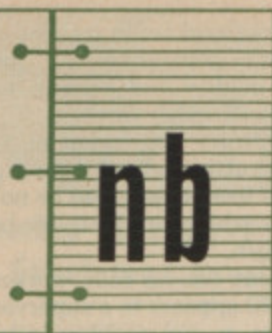
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nb notebook

Long range water plan

LIKE practically all other municipalities, Oklahoma City has been feeling the pressure that increasing usage puts on water facilities. But the Oklahoma City Council refused to be stampeded into piecemeal action to meet present needs.

Instead, it took time for a thorough study, not of present needs, but of probable needs over the next 50 years. The result is a plan, recently presented by a special advisory committee of engineers, to meet the city's growing requirements by a series of gradual steps. Total estimated cost of the project is \$109,000,000 when it is completed in the year 2000. The city has already filed applications for water rights the plan will require.

The engineers' study took into consideration water tables, rainfall, run off, quality of water and other pertinent factors. Under the proposal the city would build one new reservoir at once at a cost of \$8,000,000. This would double the present reservoir capacity.

The second phase, to start after completion of the first, would include construction of a filter plant, pumping station and new pipelines within the city. The third stage would include building additional dams, pipelines and pumping stations, with completion scheduled about 1970. The final stages provide for additional facilities to be added as the city's growth requires.

An advantage of such a long look ahead is that work on the integrated system may be carried on more or less at leisure without the increased costs that go with emergency action. In the later stages, work also may be slowed or speeded to keep in step with the need.

Customers insure accounts

THE 10,000 budget charge account customers of Miller & Rhoads department store, Richmond, Va., may now insure automatic cancellation of the balance owed on their accounts in case of death.

Miller & Rhoads' budget account customers are those who pay a fixed amount each month and who are ex-

tended credit totaling 12 times that amount. The store has approximately \$1,000,000 outstanding in such accounts.

In announcing the new plan, the store told its customers that they can now "enjoy the convenience of a budget account with complete confidence that your debts will not live after you."

Customers who buy on instalments will be able to get the insurance by paying a fee of \$1 per \$100 for the outstanding debt.

Candlepower cops

THE light meter—handy tool of the photographer—has become a law-enforcement weapon in Hawaii.

On the Island of Hilo, liquor commission inspectors, facing the task of stopping juvenile drinking and delinquency, found themselves squinting in dimly-lighted bars and cafes trying to estimate ages of patrons.

Answer to this was a better lighting decree, but this led to arguments because comparative brilliance to one set of eyes may be comparative darkness to another.

Now those enforcing the lighting standards carry hard-to-fool light meters when making their rounds.

Quality begins at 60

WORKERS more than 60 years old are doing their jobs as well as and, in some respects, better than the younger workers in industrial, retailing, office and managerial positions, according to a report by the University of Illinois Bureau of Business Management.

Older workers looked so good, in fact, that Robert L. Patterson, who wrote the report, warned that the group surveyed was highly selective. Only those with the best apparent capabilities were hired in the first place and only those with the strongest incentive to work have kept at it past 60.

The report is based on three separate studies which covered the supervisors of more than 3,000 older workers. The supervisors agreed that:

A majority of workers more than 60 are equal or superior to average

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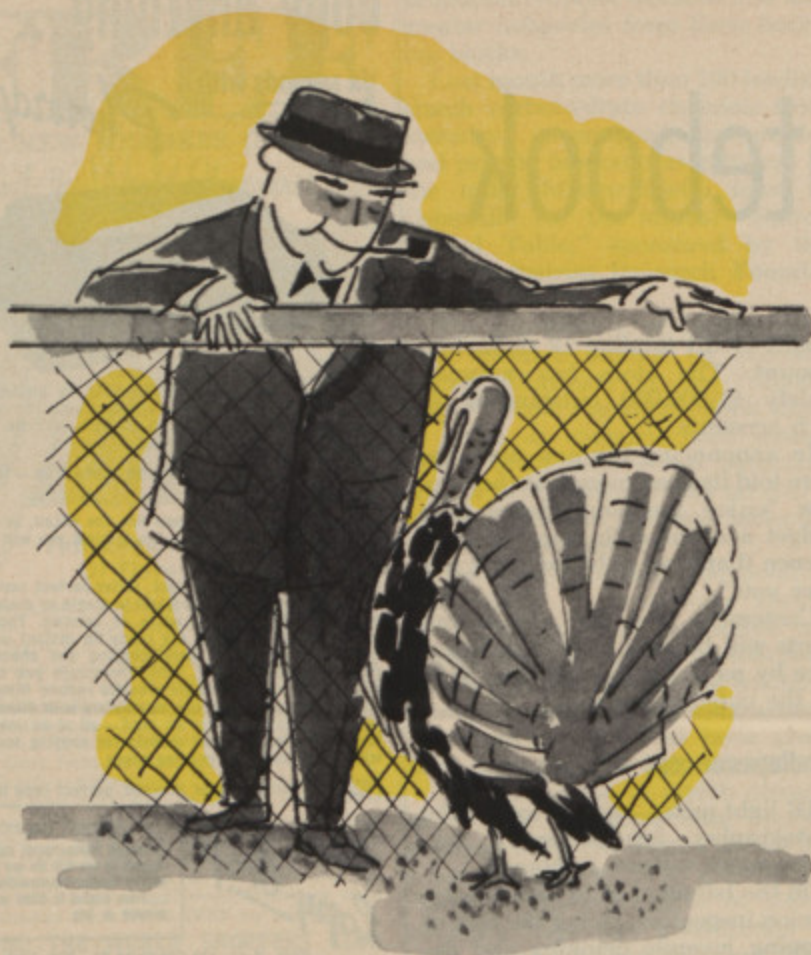
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Pete Progress talks turkey

You might be surprised to learn that some of the most important people in our country live right in your own town. Take Charlie Spears, for example. Lives in my town. Runs a hardware store. Never had his picture on television or in a national magazine. But Charlie's important.

Charlie's the busiest guy in our chamber of commerce. Sure, all the fellows in the chamber are hard workers. But Charlie's a whiz. "Let's get some more playgrounds," he says. "Why don't we buy better fire equipment? How about a Merchants' Day? Let's run a safety campaign." And Charlie does more than just suggest. Like as not he'll be running the committees and spending most of his spare time seeing that the things get done. Is Charlie important? He's one of the biggest men in the United States.



Pete Progress speaks for your chamber of commerce, an organization dedicated to making your community a safer, healthier, pleasanter place to live and work. Every project backed by the chamber is a boost for the community.

You can help, too—and active support of your chamber will help you

younger workers in respect to absenteeism, dependability, judgment, work quality and volume, and relations with other workers.

Arbitrary retirement at a certain age is cutting off valuable productivity, as there appears to be no specific age at which productivity begins to diminish.

About one in four workers more than 60 appears to a supervisor to be able to go on working indefinitely.

A majority of the older workers have no apparent weaknesses which can be specifically related to age.

The supervisors reported generally favorable results with new employees 50 years or more in age.

Barbecue sparks scholarships plan

THREE prize steers were the anonymous founders of what many of its members call the finest achievement of the Houston, Tex., Chamber of Commerce.

The steers were served at a barbecue in 1951 but, because of them, 26 boys and girls from Harris County, Texas, are now attending seven colleges and universities with the help of \$300 a year scholarships administered by the Chamber's high-powered agriculture committee.

As reported in "Farm Family," publication of the Humble Oil & Refining Company, the story goes something like this:

The steers, bought at the Houston Fat Stock Show in 1951, were presented to the 4-H Clubs of Harris County. Extension service agents and 4-H leaders, considering how best to use them, hit on the scholarship idea. They served the steers at a \$10-a-plate barbecue on the lawn of the Shamrock Hotel. The proceeds were enough to put ten boys and girls in school that year.

Now the barbecue is an annual event. The goal is to award ten scholarships each year, which will mean eventually 40 Harris County students receiving help at one time.

The scholarship selection committee, appointed by the Chamber of Commerce agriculture committee, has the final say on which boys and girls get the awards. The process begins with the farm youth groups—FHA, FFA, 4-H Boys and 4-H Girls—each of which selects six of its own high school graduate members as scholarship candidates.

The scholarship committee selects two scholarship winners from each group and two more from any of the groups. Final decisions are made after personal interviews.

The program, known as the Harris County Farm Youth Scholarship Program, will eventually cost \$12,000 a year which, its backers say, is

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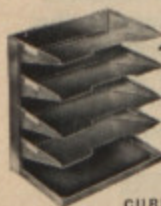
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NATION'S BUSINESS
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little enough for a plan which develops future leaders in agriculture and homemaking. Though \$300 does not meet any student's entire enrolment costs, it is the difference between going to college and staying home in most cases.

Gas stations offer fringe parking

THE United Transit Co., of Providence, R. I., is trying out a new twist on an old idea for relieving downtown traffic congestion.

With the cooperation of 100 gasoline service station operators, the company has ringed the Greater Providence area with "Courtesy Stations," where a shopper headed for downtown Providence may park her car free, and complete her trip by public transportation, paying the customary fare.

The Courtesy Stations are merely the establishments of the cooperating gas stations. Some of these concerns can accommodate only five cars, others can handle ten or more. Although they collect no parking charge, they pick up a good many extra oil change, grease and wash jobs through the new plan.

They are enthusiastic about the plan—as are the seven major oil companies which are their suppliers.

Inconvenience with a smile

WHEN Corpus Christi, Tex., undertook a major program of street repair and overhauling, the citizens reacted like citizens anywhere—they were annoyed.

Detour signs, single-lane traffic, men with red flags, dust and the smell of hot tar seemed to clog people's morale to a point where normal business transactions were being smothered in complaints about the transportation situation.

The Chamber of Commerce, seeking some means of improving the public attitude, decided on a slogan contest.

It offered a \$100 prize for the epigram that best wrapped up the prevailing inconvenience and the hope for the future.

The mere offer seemed to improve morale. The citizen who began to grumble soon found himself wondering if any of his complaints might be changed into a prize-winning slogan in the contest.

After the piles of entries were judged, the winning slogan was set up along with the "men working" and "detour" signs at all the repair jobs.

Almost miraculously the grumbling stopped. The winning slogan: "When you gotta grow, you gotta grow."

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IT'S STILL ONE WORLD



FELIX MORLEY devotes some of his space this month to the disappointment of those who believed that World War II would bring One World in international politics. Mr. Morley's position is well taken. The dream of one political world was obviously a misconception.

The divergence among governmental ideologies is, in fact, so great as to be misleading. It may cause some to believe that, since One World does not exist politically, it does not exist at all.

Such a belief is highly unrealistic because the world of economics, business and industry is today one world.

Here natural forces have made inevitable a unity which still eludes governments. This may or may not have significance for statesmen. It certainly has significance for businessmen. It means that no firm, no matter how powerful or how small, can act with assurance merely because it knows its own markets, its own suppliers, its own business.

The man who for 40 years has been building up an established credit position, a modern plant, and a horde of satisfied customers can see the picture change overnight because half way across the world a nervous sentry fires a gun—thus raising taxes, cutting off a

source of supply and summoning young workers into the defense forces.

Or a lone geologist, trudging through a Canadian wilderness, stumbles over a peculiar rock and opens a great new mining empire, changing the whole geography of natural resources.

Or a foreign country stabilizes its government, offers attractive investment opportunities, and alters heating habits in the United States.

Even in the businessman's own country, his own neighborhood, daily events that he can't control persistently change his business situation.

His customers and his workers decide to move, as one fifth of our population does each year.

A competitor builds a parking lot.

The man who ran the good restaurant next door sells out to an inefficient successor.

A new highway changes his town's traffic pattern.

The American businessman has demonstrated his ability to meet changing conditions—provided he knows about them. But the day has come when few men can know about them all.

A successful engineer remarked recently, "There are about 80 publications that I ought to read every month—less than half of them directly in my field."

A young associate had seen him working out a complicated computation on a slide rule.

"Why do you do that?" he asked, and produced a recent issue of a trade paper in which such calculations were printed as tables. The engineer had skipped that publication that month.

Like the engineer, most businessmen have innumerable publications, reports, statements that they ought to read. But every month they, too, skip one now and then and skim through the rest, simply because they haven't time for all.

Some trust to luck that nothing vital will be missed. Some assign business reading to other members of their staffs.

But most have found that the answer to one economic world is one industrial world. They have joined together in chambers of commerce and trade associations with specially trained staffs which watch and interpret world and industrial developments, as a part of their varied services.

Such organizations exist primarily to solve members' problems, of course, but the chief beneficiary is the public which gains through better products more efficiently produced. If Malenkov had similar organizations to help him, the result might be an improved governmental product which would make One World possible politically as well as economically.



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